

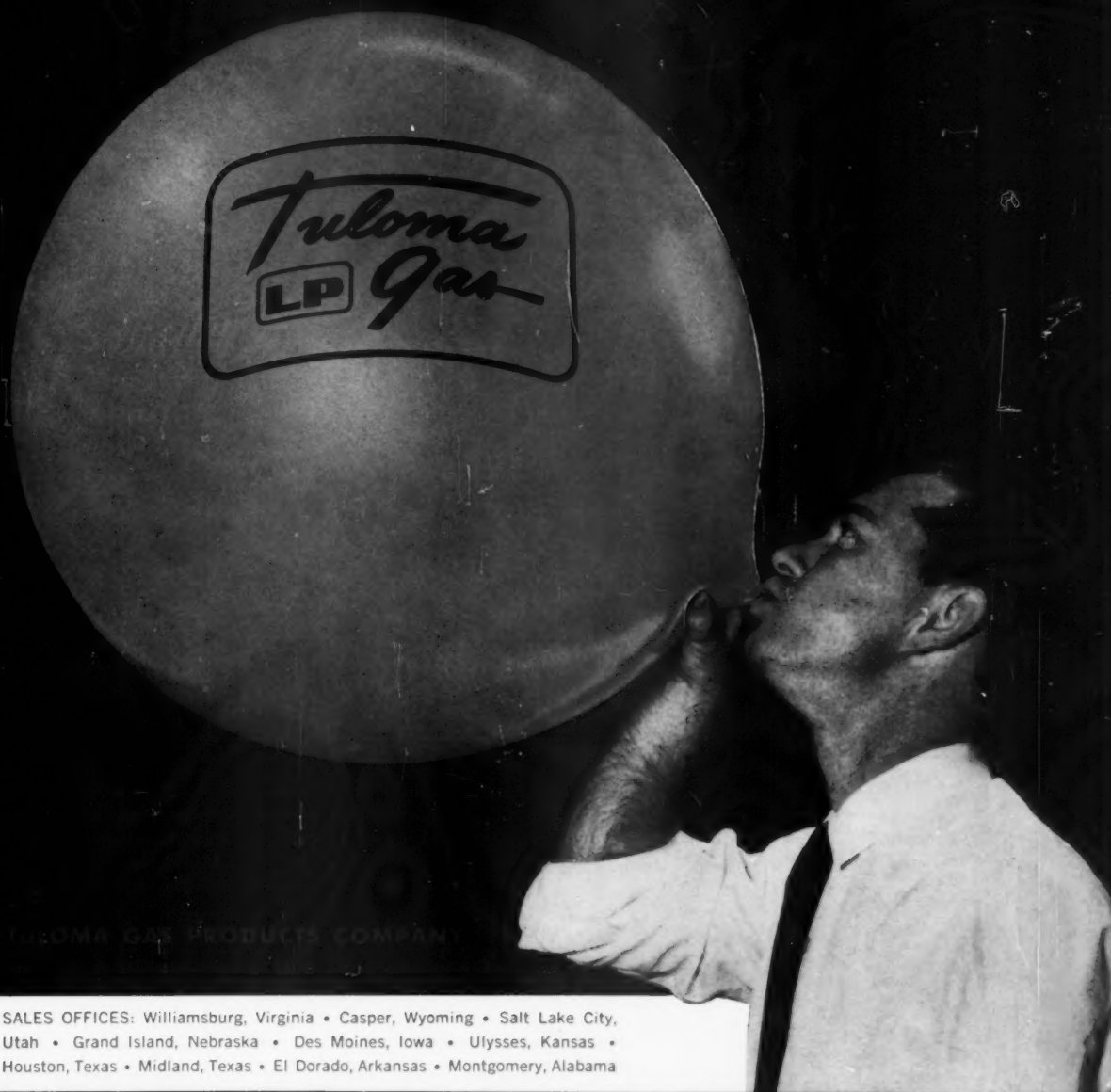
FEBRUARY 1960

BUTANE-PROPANE *News*

A CHILTON ① PUBLICATION

- ✚ How to prevent trailer fatalities
- \$ How to borrow money

HEADQUARTERS FOR L.P. GAS INFORMATION SINCE 1931



TULOMA GAS PRODUCTS COMPANY

SALES OFFICES: Williamsburg, Virginia • Casper, Wyoming • Salt Lake City, Utah • Grand Island, Nebraska • Des Moines, Iowa • Ulysses, Kansas • Houston, Texas • Midland, Texas • El Dorado, Arkansas • Montgomery, Alabama

Hackney vapor-phase filling means more stops...more gallons delivered per day

LP-Gas tank truck operators who supply customers with Hackney system tanks can *earn more profit*.

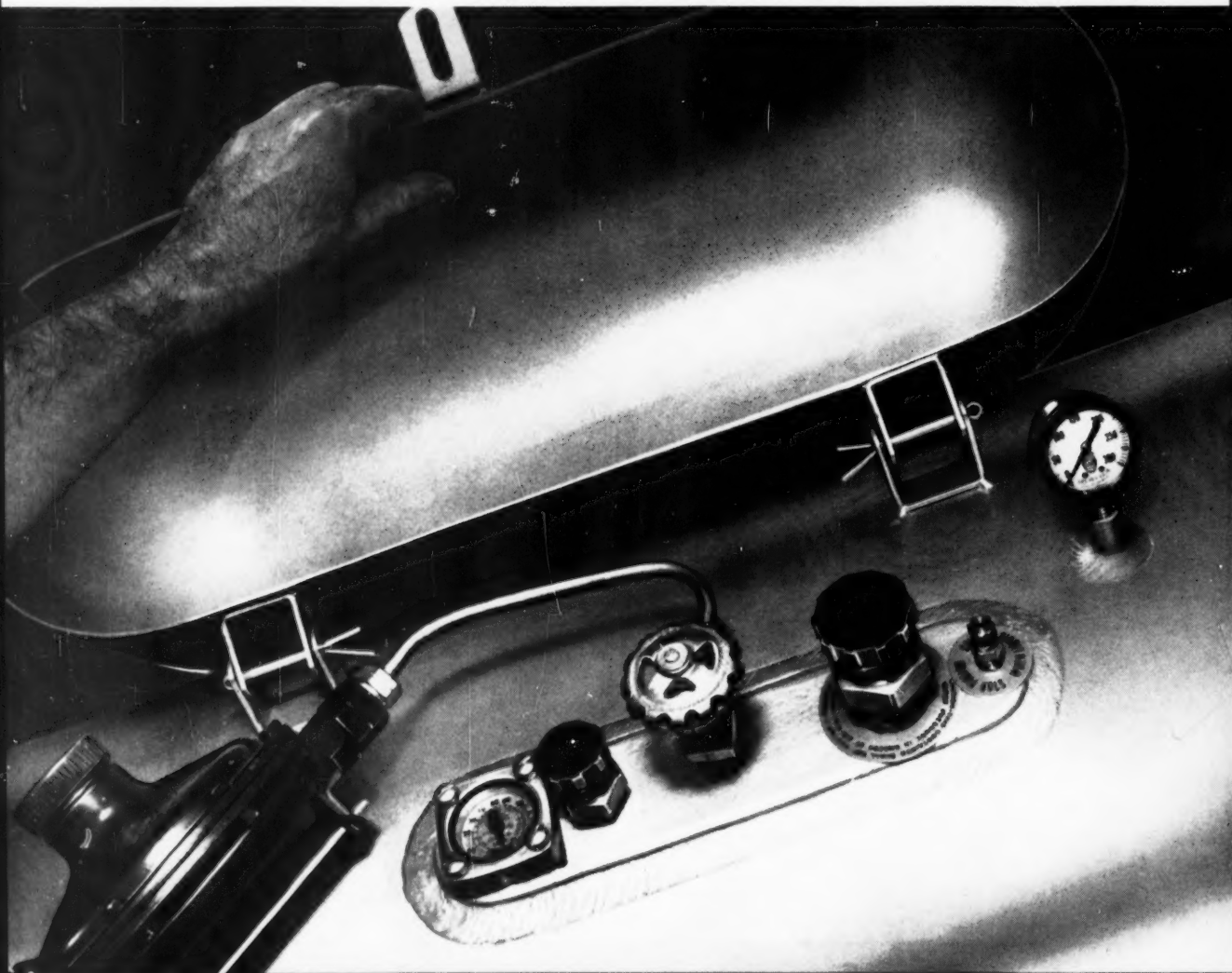
Hackney popular shoulder-mounted tanks equipped with separate fill valve fill directly into the vapor phase. That means faster filling—with more stops per truck per day, more gallons delivered and a corresponding cut in over-all delivery costs. Now with 1¼" Chek-Lok in bottom opening for liquid transfer or evacuation.

Hackney shoulder-mounted tanks enable driver and customer to read the float gauge easily. All Hackney tanks are quality-made and exceed minimum ASME, NBFU requirements, and carry UL listing.

There's a Hackney system tank to meet every customer's need. Sizes: 250 to 3360 gallons (W.C.).

For complete specifications, write to the address below, or see your Pressed Steel Tank representative.

Hackney systems are engineered and tested for filling efficiency in special LP-Gas laboratory, specifically designed for that purpose.



Pressed Steel Tank Company

Manufacturer of Hackney Products

1487 South 66th Street, Milwaukee 14, Wisconsin

Branch offices in principal cities

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



cylinders



systems



fuel tanks for
trucks and tractors



lift truck tanks



tank trucks



transports



bulk storage tanks

Is gas loss burglarizing your profits



Vapor meters guarding your services will uncover and cut your "lost gas" problem to a very small percentage. Meters furnish a positive record against which to check the gas you sold against the gas you purchased. You'll know exactly how much gas each account consumes. So with this knowledge you will have positive inventory control.

Incidentally, your metered customers will be better satisfied and more loyal. That's because nothing builds confidence like an invoice based

on a meter reading—one that can be verified on the spot—and an invoice that can be paid painlessly since it covers only the gas actually used.

In all, there are seven basic reasons plus many others why you should go to vapor metering. They are described in our bulletin ADV-41. Write for your copy today. Rockwell Manufacturing Company, Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Guelph, Ontario.

VAPOR METERING *will improve your profit picture*

YOU'LL SELL MORE GAS WITH THIS VAPOR METER

This is the modern meter for a modern fuel. You can use it with profit to attract new customers. It's lightweight, compact, easy to install. Has ample capacity for practically every service—up to 240,000 Btu's per hour.



HARDWICK AUTOMATIC GAS RANGES



Famous MicroRay Range

... with the fabulous new ceramic burner that cooks twice as fast with half the gas. Introduces an entirely new and exciting concept of cooking.

*... most versatile, profitable
line in the industry*

Hardwick presents the million-dollar look for 1960 ... completely redesigned with many new engineering developments and the most beautiful styling ever offered. Yes, all new—from the budget models to the deluxe models—with the traditional quality and construction Hardwick has developed in its 80 years of experience. New styling, new features, new engineering to make this the most salable, most profitable range line ever.

Get set for '60, Get set with HARDWICK.

ADVERTISED IN McCall's, Ladies' Home Journal, Better Homes & Gardens, House Beautiful, American Home, Living for Young Homemakers, Family Circle, Woman's Day and Parents.

HARDWICK STOVE COMPANY
CLEVELAND, TENNESSEE



Gold Star Award

A. G. A. Approved
Deluxe Ranges Built
to Gold Star Stand-
ards.



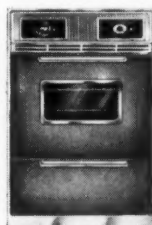
Standard Size 36" Model—All new luxury styling to please the modern homemaker of today.



Space-Saving 30" Model—A brand new space-saving beauty that will add charm to any kitchen.



Compact 20" Apartment Model—Beauty and efficiency in even the smallest of Hardwick Ranges.



The All New Built-Ins with bold, Futurama design... smart fashion colors in six choices to blend with any kitchen decor.

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BEHIND THE SCENES

A CHILTON PUBLICATION

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Please Answer

By the time you read this, BPN's Second Annual Survey of the LPG Industry should have appeared in your mailbox.

You may well recall our first industry survey, which arrived about the same time last year. You'll undoubtedly remember the results of that survey, printed in the May 1959 issue in a special 16-page section, "This Is Your Industry." You'll probably also remember how the survey provided for the first time such useful things as: a picture of the composite LPG dealer, a profile of the entire industry, a stratification of the industry by dealer size, a comparison of dealers from the different geographic areas, and estimates of how much the nation's LPG dealers expected to sell—and buy—in 1959.

Did you reply to last year's survey? If you didn't stand up to be counted in '59, we certainly hope you'll do so in '60! The accuracy of our survey figures depends on you and your counterparts in the industry. If you take the time to reply, you'll make our figures just a fraction of a percentage point more accurate.

We think you'll want them to be as accurate as possible. It's always enlightening to see how you stack up against your counterparts; and you're being unfair to yourself if you don't do what you can to make the comparison as accurate as possible.

Won't you reply immediately to our Second Annual Survey of the LPG Industry?

Hats off to Homer!

The annual Tournament of Roses Parade in Pasadena, Calif., must certainly be one of the most impressive spectacles in the world. Everyone and everything in it must be not only good, but excellent. To be allowed to participate is a rare privilege, one worth working hard to attain.

Among the 131 units in the 1960

parade, there were a half-dozen out-of-state high school bands, some from as far away as the eastern seaboard. Each was chosen by the tournament committee with particular care. There were two qualifications: first, the band had to be good, and second, its members and the community had to be willing to work to raise the money needed for the trip.

One of the chosen few was the 80-piece Golden Eagle band from Ruskin high school in Hickman Mills, Mo. By their own sweat, combined with the efforts of an enthusiastic and dedicated fundraising committee, the bandmen raised \$14,384. This was enough to finance an eight-day trip which included performances at Disneyland and Los Angeles' new sports arena, and tours of Marineland, Knott's Berry Farm, and other famous southern California attractions.

The reason we bring this up is that one of the men who worked hardest to make the trip possible was a civic-minded LPG dealer, Homer Braswell of Hydro-Butane Gas Co. He helped with the fund raising and, with Mrs. Braswell, and several other couples, chaperoned the youngsters. It was a real achievement.

BACK TALK

Joe Rose's example

Belleville, Ill.

I found your article "How does Joe Rose make his really big sales," extremely interesting. I have been seriously thinking of trying to contact different industrial plants in this area to persuade them to convert to propane on their forklift trucks. We have one large company, The Carling Brewery, which we have converted and have been supplying the past two years, and they are very satisfied with their 29 converted forklifts. I had been wondering how to approach other companies. I thank you for print-

ing this article of Mr. Rose's and intend to use his approach in making my contacts.

JOE REIS
Belleville Skelgas

Letters comment

Los Angeles, Calif.

We just received your January 1960 issue and cannot help but comment on your reply to the gentleman in Ohio as shown on page 24.

Beam Products manufactures a carburetor adapter or mixer with a removable filter element. Also for the record, we furnish spud-in attachments and have a complete line of diesel supplemental fuel systems.

L. C. ZONKER
Beam Products Manufacturing Co.

Gas light display

Lebanon, Mo.

Please notice the enclosed clipping taken from the front page of the Dec. 17, 1959, issue of the Lebanon, Mo., daily newspaper.

I am sending you this information thinking that it might be of some interest to your magazine readers. The idea was original and has had extremely good reception locally. I feel that things such as this not only demonstrate the versatility of gas, but will also make people more gas conscious thereby promoting the overall use of gas and the best interests of the particular gas company concerned.

ROBERT W. PLASTER
S/P Gas Co. Inc.

Bob Plaster Home Has Gas Lighted Christmas Display

One of the most unusual Christmas displays in Lebanon is featured on the front lawn at the home of Mr. and Mrs. Bob Plaster, in Smith Acres.

Mr. Plaster, manager of the S/P Gas Co., devised the display to please his children.

He decorated the evergreens in front of his home with lights, and then placed a sleigh, reindeer and Santa Claus on the lawn. Mr. Plaster constructed a gas light to illuminate the scene, which has the appearance of many large candles burning to animate the display.

management that looks ahead,

MOVES AHEAD!

with... **WEATHERHEAD
CYLINDER-A-BILITY**



HIGHEST QUALITY



CYLINDERS



CYLINDER SYSTEMS



UTILIZATION EQUIPMENT

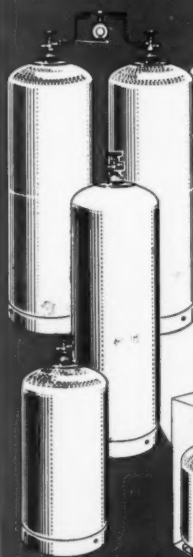


DEPENDABLE ONE-SOURCE SUPPLY



CONVENIENT LEASING PROGRAM

... send for descriptive booklet



**Boosting your ABILITY
TO SERVE your customers
BETTER!**

More and more LPG dealers are finding greater profit through increased sales with **WEATHERHEAD CYLINDER-A-BILITY**. Look ahead... move ahead! Outline your cylinder needs and write us today.



WARRANTY
PROTECTION ON
ALL WEATHERHEAD
LP-GAS PRODUCTS

THE WEATHERHEAD COMPANY
LP-Gas Equipment Division
Cleveland 8, Ohio

The Weatherhead Co. of Canada Ltd., St. Thomas, Ont., Canada
Export Division: Cleveland, Ohio - Cable Address, WEATHCO

SINCE 1919..... 40 Years of Manufacturing Experience

INTRODUCING **SHORT NEW**
CHEVROLET
TILT CAB TRUCKS

72" BUMPER TO BACK OF CAB



They're built like "tilts" should be built—that's the story on this new line of trucks from Chevrolet. All of the special advantages of tilt cab design—compactness, extra payload capacity, easy maintenance, maneuverability—are better than ever before. And Chevy brings you some extra-special benefits, too!

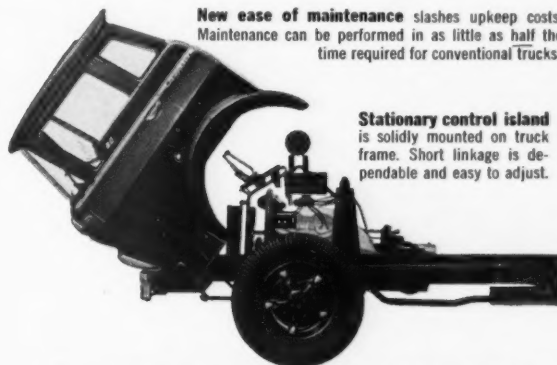
MOST COMPACT IN ITS CLASS for higher profit payloads. Six-foot-bumper-to-back-of-cab dimension gives you more cargo space than ever before (almost 60 cubic feet more than other tilt cab trucks!). You can carry bulkier payloads in a bigger body; and you can carry *heavier* payloads, too, because the extra space means more of the load weight can be carried by the front suspension. This *shorter* design means longer profits!

BEST MANEUVERABILITY. With comparable body sizes, new Chevrolet tilt cabs are as much as 2½ feet shorter overall than conventional models and save up to 48 inches in wheelbase. This *minimized* length and wheelbase pay off in *maneuverability*—easy handling in tight places that will save you time and work every day.

ROOMIEST CAB in its class! New Chevy tilt cabs are big and comfortable inside. A full 6½ feet wide, with plenty of head room and leg room for rangy drivers. And there's the safety of "picture window" visibility through a sweeping glass area.

REVOLUTIONARY TORSION-SPRING RIDE standard in all models! Independently suspended front wheels step nimbly over bumps . . . and friction-free torsion bars soak up jolts of all sizes. New variable-rate rear springs complement the new front suspension perfectly. The result is an amazingly smooth ride that assures higher safe cruising speeds, more work done every day . . . plus longer truck life with lower maintenance costs.

And in every new Chevy tilt cab model, new tougher built rear axles and brawny new box-section side-rail frames team up with the best kind of big truck power.



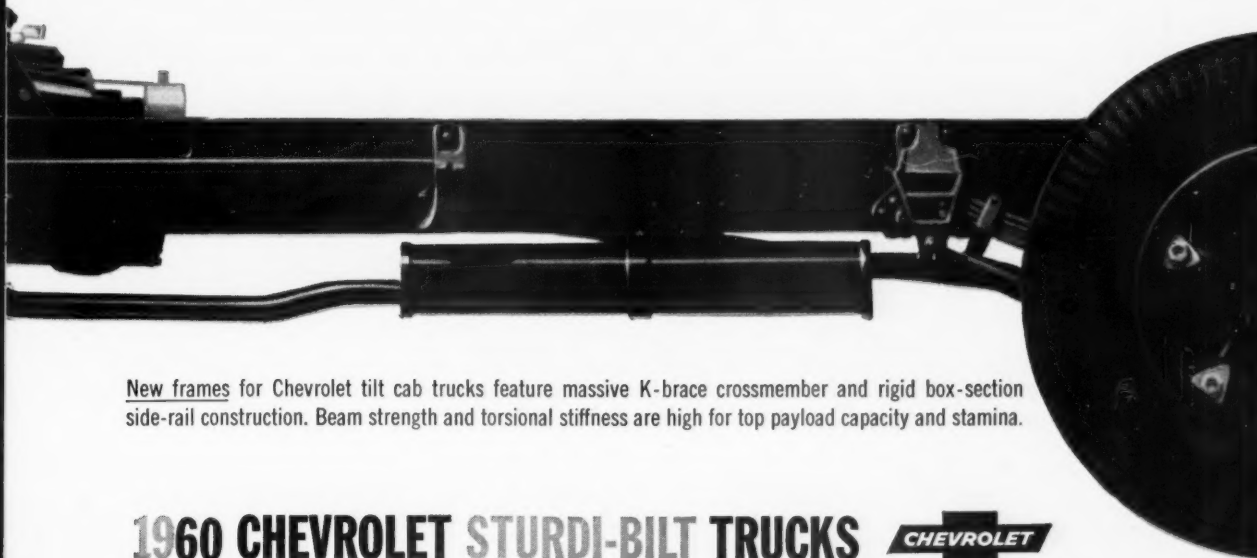
New ease of maintenance slashes upkeep costs. Maintenance can be performed in as little as half the time required for conventional trucks!

Stationary control island is solidly mounted on truck frame. Short linkage is dependable and easy to adjust.

Torsion-spring tilting hinge takes the work out of tilting. A tough torsion bar counterbalances the cab's weight and makes cab tilting a breeze.

Triple-safe locking system provides protection against accidental tilting. Keeps cab securely anchored down when you're under way.

20 NEW MODELS IN 5 SERIES. Five rugged medium- and heavy-duty series offer G.V.W.'s up to 25,000 lbs. Money-saving power is provided by Chevy's famous truck-built engines—economy-minded 6's for all models up to 22,000 lbs. G.V.W. and tough V8's for bigger models. Chevy makes tilt cab design *work* like never before; you can see for yourself by visiting your Chevrolet dealer right now! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



New frames for Chevrolet tilt cab trucks feature massive K-brace crossmember and rigid box-section side-rail construction. Beam strength and torsional stiffness are high for top payload capacity and stamina.

1960 CHEVROLET STURDI-BILT TRUCKS



"Our water heater's leaking!
Yes—the one you saved money on—
but not enough to buy me new linoleum!
The \$10 we saved won't even be a down
payment on what we need now!
Some bargain!""*

THIS AD IN
SATURDAY EVENING POST
MARCH 12
REACHES 23,000,000 PROSPECTS—
It's one of a year-long
series designed to create sales
for DAY & NIGHT dealers...
and dealers who sell other
reputable water heaters.

*Water heaters that fail fast aren't bargains. They're burdens. Unburden yourself...with the most dependable water heater you can own...one that's built to last...long on quality, and long on service. A Day & Night Jetglas water heater costs only a little more than the unreliable "bargain" heater that's here today and gone tomorrow. Buy it—at your master plumbers.

It can't happen with a

DAY & NIGHT *Jetglas*®

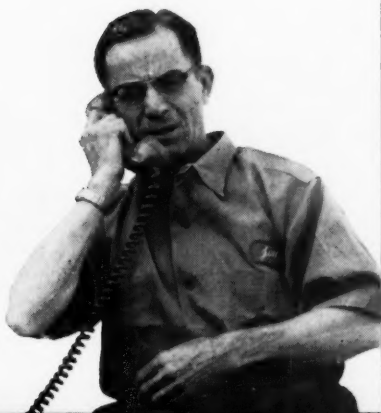
WATER HEATER better-built to last by Day & Night Manufacturing Company, 855 Anaheim-Puente Rd., La Puente, California.

Over 50 years experience in better-built Water Heaters.
Home Heating and Air Conditioning—America's Finest.

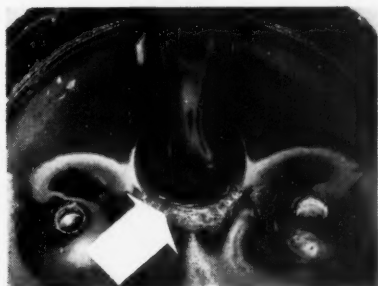
...her next call is to the plumber who sold her the "bargain"...

"you said it was just
as good... that we're
making a good deal. What's
so good about a ruined floor?"

"... And something else. What
about the new water heater?
Who pays for that? Some good
deal! Now my husband has
something to say to you, too!"

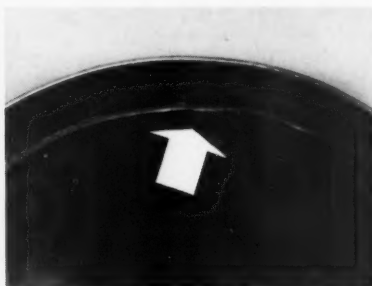


TAKE A CLOSE LOOK AT THE TROUBLE YOU BUY IN A "PRICE HEATER!"



TYPICAL TROUBLE—inadequate enamelling experience and the absence of sure quality control can mean severe chippage on the draw-neck area of both base and head.

THE DANGER—These chipped areas expose bare, raw metal, inviting, even hastening, corrosion which quickly "discovers" and attacks any exposed metal.



TYPICAL TROUBLE—construction short-cuts omit essential steps like the sizing of mated parts and result in bulging joints or deep seam openings between head and wall surfaces.

THE DANGER—the free flex-action of distorted areas and edges (under operating pressures) throws off glass coating immediately, leaving bare steel exposed to corrosive attack.

There's one sure way to avoid these scorching phone calls, damage debates, and harmful word-of-mouth reports about your service: Be sure you sell a water heater that won't let you or your customers down. Take a good look at the water heater you are selling now:

1. **INSPECT** the nipples—for brass instead of galvanized.
2. **PULL** the anode, if there is one. Be sure it's full length, not a stub.
3. **INSPECT** the inside of the tank with a small drop bulb and a dental mirror—for clean welds, tight joints, complete undamaged glass coatings.
4. **CHECK** the warranty. Look for the "loop-holes," the tricky processing gimmicks.

And you can make sure another, even easier, way: Order, stock and sell **DAY & NIGHT** water heaters. You get *real quality*—100% inspected and controlled... a "no loop-hole" warranty that protects both you and your customer for 10 years. **DAY & NIGHT** quality protects your profits... and still sells for very little more than the "bargain" heaters. More important, **DAY & NIGHT** *stays sold!*

DAY & NIGHT MANUFACTURING CO.

855 Anaheim-Puente Rd., La Puente, Calif. Over 50 years experience in better-built Water Heaters, Home Heating and Air Conditioning

POWELL LPG VALVES

for the safe handling of Butane and Propane Gases

performance that makes a world of difference

Another Powell leader—LPG Valves carefully designed and specially engineered for the safe and satisfactory handling of liquid or gaseous Butane, Propane and other Hydrocarbons in industry.

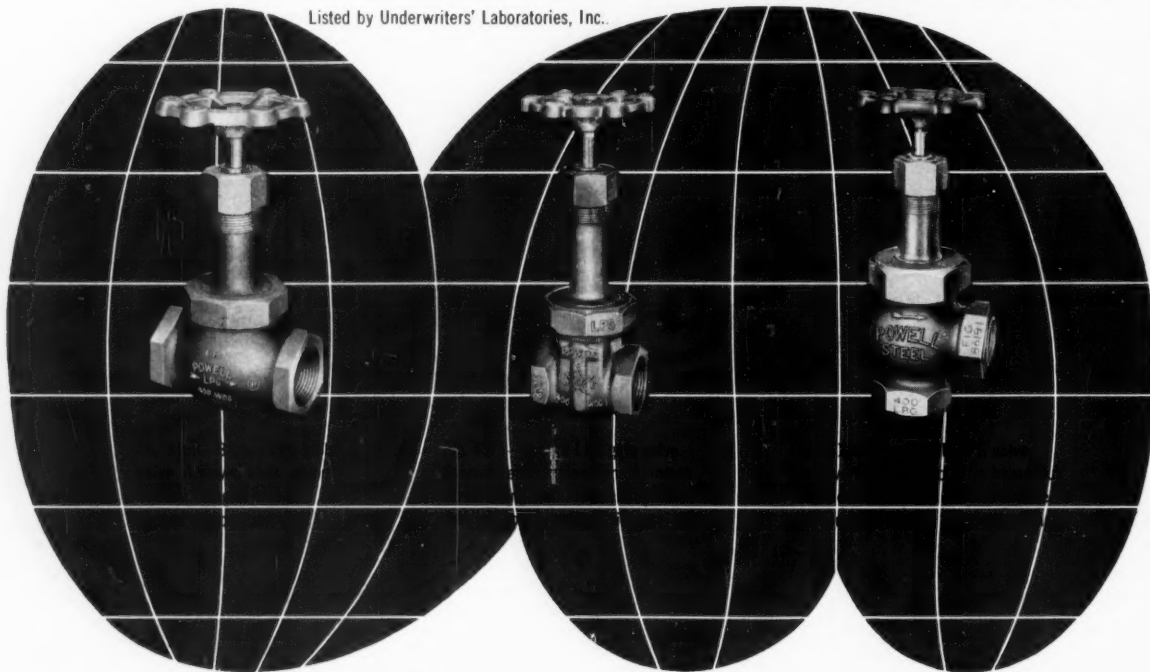
These safety-first valves are available in: Bronze—Globes, Angles, Gates, Checks and Steel—Globes, Angles, Checks . . . for 400 pounds W.O.G.

One of their many Powell advantages—the trim and internal working parts of all the valves are easily and quickly renewable.

For all your industry's flow control requirements—whether handling water, oil, gas, air, steam, corrosive fluids—Powell has the right valves. Call your local Powell distributor or write to us.

Powell . . . world's largest family of valves

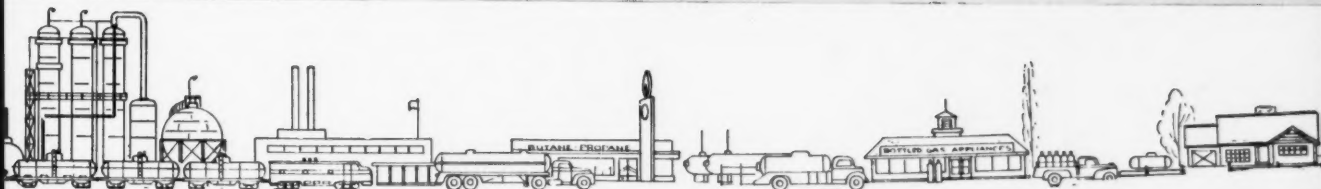
Listed by Underwriters' Laboratories, Inc.



THE WM. POWELL COMPANY • DEPENDABLE VALVES SINCE 1846 • CINCINNATI 22, OHIO

HIGHLIGHTS

BPN



After more than three years of litigation, the Federal Trade Commission's anti-trust action against Gulf Oil Corp. was settled in early January. Big result is that Gulf must sell approximately 20 per cent of the assets held by Warren Petroleum Corp. when the two companies merged in March 1956. The original anti-merger action, filed in December 1956, sought to force Gulf to sell 100 per cent of Warren's assets. The FTC said this consent agreement, which was the largest in commission history "does not constitute an admission that (Gulf or Warren) had violated the law."

Warren properties to be sold, all within the next three years, represent assets of about \$35 million. Their replacement value, however, is estimated at over \$60 million. These properties can not be bought by any of 23 major companies dealing in LPG or natural gasoline, or by any subsidiary or employee of Gulf or Warren. Here's what must be sold:

All LPG or natural gasoline railroad tank cars Warren owned or had the right to use, as of March 1956.

All properties of Warren's Dri-Gas Division (Chicago distributing firm), its listing of customers, and Warren's right to use the brand name, "Dri-Gas."

All current Warren holdings in three Little Rock, Ark., distributing and marketing firms, Butane Gas Inc., Butane Wholesale Gas Co., and Harris Distributors Inc.

All of Warren's ownership, as of March 1956, in three natural gas liquid plants, one petrochemical plant, and its San Pedro, Calif., terminal.

There are two additional important provisions to the settlement. For the next ten years, Gulf and Warren must sell or make available to various classes of independent purchasers the same percentages of LPG and natural gasoline which the two companies sold these firms during 1955. And, for the next ten years, the two companies cannot acquire control or more than 20 per cent of the fixed assets of any LPG or natural gasoline marketer whose annual sales of these two products exceeds 125 million gal.

In a bulletin to all customers, Warren Vice President G. L. Brennan expressed the company's views of the settlement. "Although we did not feel that there was a violation of the Federal Anti-Trust Laws, and still do not; after several years of litigation, it was indicated that if we continued to contest it, there would be more years of costly litigation to look forward to. Therefore, it appeared to be in our best interest to agree to a settlement. . . . Naturally, we are extremely reluctant to part company with any of these assets, particularly our tank cars, which are so essential to serving our customers as we have in the past. However, the decree does not prohibit us from replacing these assets and you may rest assured that we are replacing them now and will continue to do so. . . . Although the conclusion of this case was not what we had hoped for, we nevertheless are quite grateful that the settlement reached in no way handicaps or changes in any manner the type of service we have offered you heretofore."

Probably one of the most important industry developments of the new year is the construction by Union Tank Car Co. of the "super tanker," a 30,000 gal. giant that will hold almost three times as much LPG as today's regular

Continued on next page

Continued

HIGHLIGHTS

LPG tankers. Two of the cars will be leased to Tuloma Gas Products Co. in early spring and will go into service immediately. Interstate Commerce Commission figures indicate the 85-ft.-long cars will save more than one-third of normal operating costs. J. L. Potter, Tuloma's manager of traffic, says: "We are looking for the most economical and stable means of long range transportation. This new car is the answer. (It) is the only real means for the railroads to improve their competitive position." (Full details on the super tanker will appear in March BPN.)

Another good indication of large tank savings comes from an entirely different type of source, a public utility that uses propane for peak-shaving. Northern States Power Co. of St. Paul had planned to add one dozen 30,000 gal. tanks to its facility. When the NFPA and NEFU codes were revised to allow unrefrigerated tanks to go up to 200,000 gal., the company restudied its plans. It found the 90,000 gal. size the best compromise for its needs, and ordered four, planning to save \$50,000. Now that installation is complete, it reports savings actually turned out to be "considerably in excess" of that figure.

Imported propane, arriving in refrigerated vessels, stored in Gulf Coast salt domes, then pipelined to eastern and midwestern markets, is a definite possibility in as little as five years. That belief was advanced recently by a pair of top executives from Texas Eastern Transmission Corp. at the opening of the firm's Mont Belvieu underground storage terminal near Houston. Senior Vice Presidents Millard K. Neptune and John Lynch said propane would be imported because it would be cheaper than the domestic product, but such imports probably wouldn't amount to a significant percentage of the nation's total energy needs. Neptune said the high cost of creating LPG storage along the Atlantic coast, around \$7.50 a barrel, probably would divert imported propane to the Gulf coast, where salt domes can be etched for about 50 cents a barrel. He estimated that the Mont Belvieu terminal, which began with a 329,000 bbl capacity, will eventually hold seven to nine million barrels to be fed through the Little Big Inch to the firm's Todhunter terminal near Cincinnati.

Demands on Texas Eastern's propane facilities are so urgent, Neptune revealed, that the firm had to stop etching the first Mont Belvieu well when it was less than one-third of its intended capacity, so propane could be immediately injected--and drawn off. He believes the propane market has never really been tested because of three bottlenecks: cold weather supplies, financing, and salesmanship, and that the way is now open for the industry to "go out and sell" propane. Lynch said it will still take some time to guarantee year-round supplies. Both men felt the market will absorb all available propane at present prices, meaning volume savings can be pocketed by the industry.

Gas air conditioning is making real progress. From Arkla Air Conditioning Corp. comes word of the largest gas air conditioning equipment purchase commitment ever made: 2000 to 2500 3- and 5-ton units. From the American Standards Association comes word that the first standard on gas air conditioners is now available. From Arkansas LPGA comes word that the featured topic at its midwinter meeting was summer load building via air conditioning.

Another chilling note comes from Selectra Industries Ltd. of Toronto, Canada. The firm has announced a 25-lb capacity refrigerator that operates on current from a car cigaret lighter outlet but can be instantly converted to LPG from a small bottle.

In celebration of our 60th year of world-wide progress...

A Genuine Coleman gas-lite

Yours to give now as a
"buyer's bonus" when
you install



America's Only Bonded Line Heating and Air Conditioning

This new Coleman Gas-Lite is the key to the most complete and most exciting business-building program ever offered through heating and air conditioning dealers. Most complete because it includes every imaginable aid to selling. Most exciting because it gets an enthusiastic response from everyone in the market for heating or air conditioning.

Here's the plan. As an anniversary salute, we're making it possible for you to offer a genuine Coleman Gas-Lite to your customer with the installation of any Coleman central furnace, wall heater, floor furnace or air conditioner. It's an offer your prospects will go for when you give them the lamp as a bonus for buying now! For more information, use the coupon below or call your Coleman distributor for your complete program kit containing full details—right away!

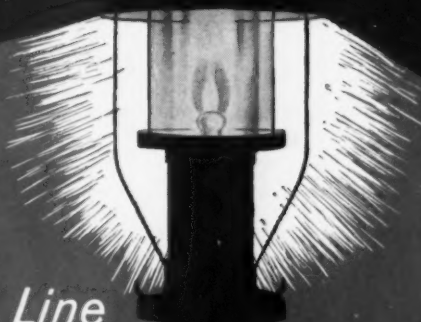


Best selling tool of all—you offer this exclusive \$500 bond with every unit you sell

Coleman's Gas-Lite promotion will be announced to home owners in the March 26 Saturday Evening Post



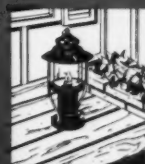
Also makers of famous Vit-Rock water heaters, Decorama space heaters, Coleman lanterns, camp stoves, jugs and coolers—mobile home heating and air conditioning



Works on any gas—installs 4 ways
Can be mounted on post (as at left)



Wall mounting view



Can be mounted on wall



Can be mounted on wall with decorator bracket

• The Coleman Company, Inc., Wichita 1, Kansas
• Quickly send more information on your Gas-Lite promotion.
• Name _____ Title _____
• Firm Name _____
• Address _____
• City _____ Zone _____ State _____

BIGGER PAYLOAD DELIVERY UNITS

THE Nor-Tex FOUR STANDARD PAYLOAD SPECIAL CUSTOM DE LUXE

Available In Twin or Single Barrel Models



2500 WG Units Weigh Under 23,000 lbs. Loaded!

**You'll Haul
Extra Gallons
Each Trip!**

**You'll Deliver
Extra Gallons
Each Trip!**

**You'll Work Fewer
Hours... Drive
Less Miles!**

**You'll Earn
More Money The
Nor-Tex Way!**

Nor-Tex presents the newest development in sleek, LIGHT-WEIGHT, stream-lined twin or single barrel LPG Delivery Units and again Nor-Tex is FIRST with ALUMINUM SKIRTING and CABINETS and engineering designs which have reduced over-all weight. 3000 WG units and over are also available for use on cab over or cab forward trucks and are still within the 18,000-lb. axle limit.

Nor-Tex Custom units haul "extra" gallons each trip! You deliver "extra" gallons faster with Nor-Tex custom designed high flow plumbing. You take fewer hours and travel less miles to deliver a gallon of gas. For day in, day out efficiency, durability, payload, fast loading, high rated delivery, perfect balance and appearance Nor-Tex delivery equipment can't be beat!

WRITE, WIRE
OR PHONE
FOR PRICES



National Sales Agents for

Ideal In States Imposing Ton Mile Tax

Manufacturers of Fine LPG Equipment

Whatever your needs in LPG equipment there is a safe, profitable, factory tailored Nor-Tex unit ready for you. We are truck distributors and we manufacture LPG Truck and Transport Tanks, all types of LPG Tractor and Motor Fuel Tanks, Portable LPG Filling Stations, Trailer Tanks, LPG Storage and Domestic Tanks, Farm Carts and Anhydrous Ammonia Tanks, all built by men with years of Butane-Propane bulk plant experience. Let Nor-Tex help you boost profit and slash delivery costs with High Flow piping... faster loading and unloading units.

NORTH TEXAS

Extra Savings!
We Are Truck Distributors!

Nor-Tex
LOW COST
LPG
Financing
A PLAN TO MEET EVERY NEED!

May We
Help You?

Interested attention, experienced assistance and helpful suggestions are yours for the asking.



You can now haul
MORE GAS and **LESS STEEL**
Than ever before!

Hitch
YOUR PROFIT
to a
STAR

CUSTOM BUILT

with every desired feature in an above ground tank

- ★ Nor-Tex construction exceeds all safety requirements.
- ★ Thoroughly buffed and cleaned for finest appearance.
- ★ The Nor-Tex STAR is completely fitted and ready for use.
- ★ Bottom outlets are standard on all above ground tanks.
- ★ Immediate delivery on one Nor-Tex STAR or a truckload.

Internal Relief
Valve on all
"STAR" Systems

- ★ Custom Made Hood
- ★ Rego Multi-Valve
- ★ Rego Regulators



TANK CO.

P. O. BOX 1219
DENTON, TEXAS
CENTRAL 5416



Warm weather isn't too far away!

PLAN NOW

to BUILD that Summer Load

Avail yourself of Warren's
many facilities designed to help
you obtain and hold more
summer business.



★ *Contact our nearest Sales Office*



WARREN PETROLEUM CORPORATION

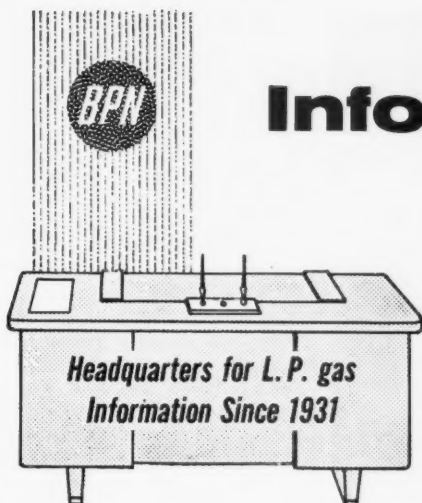
TULSA, OKLAHOMA

DISTRICT SALES OFFICES

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NEW YORK, N. Y. • HOUSTON, TEXAS • OMAHA, NEBR.
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NASHVILLE, TENN. • SPICER, MINN. • GARDEN CITY, KANS.



Information Desk

Loading platform justified in refusing to fill cylinder . . . Many variables affect cost of heating swimming pool . . . Several problems in pumping L. P. gas to pumping engines over long distances.

All cylinders must be LPG-code approved

Indiana

We have in our possession an armed services (Air Force) propane cylinder, sized and shaped like the Air Force's oxygen cylinder and bearing the data:

Propane capacity—min. 35 lb; max. 39.12 lb

Working pressure—250 psi

Hydrostatic tested—800 psi

SST Co. 1946—Spec. 94-40321

Serial number—10688

Our loading plant refused to fill this cylinder with propane saying it wasn't safe and had no ICC number.

What's the score on this? The cylinder is in extra good condition and was good enough for the government to accept for propane use and is marked as such. Surely government specifications are equal to or above those of civilian origin.

G. M. S.

The tank in question may have been purchased by the Air Force for use with propane. Also, it may not have been.

After the war many of these tanks, used by the Air Force for oxygen, were sold as surplus. Many were later resold for use with propane by simply inserting a POL valve in the tank opening. Some unreliable groups even went so far as to attach name plates bearing the data you outline or stamping it on the shell.

It is possible that the Air Force specifications are satisfactory for their needs even in propane service. However, only those cylinders manufactured in accordance with appro-

priate ICC specifications or ASME code requirements should be used for service to civilian customers.

Even though the cylinder may have been manufactured for the Air Force for propane service in accordance with their specifications, it should be refilled only on an Air Force order for their use.

Your loading plant was right in refusing to fill the cylinder for civilian use.—Ed.



Pool heating has problems

New Mexico

One of our customers is planning on installing a swimming pool in a motel, and is interested in comparative costs between oil and gas, as well as the actual cost of keeping the pool at swimming temperature.

The pool will be 20 x 40 ft with a 260 M Btu burner. Propane is priced at 13 cents per gal., oil at 15 cents per gal. We are at 7000 ft altitude, and our summer water temperature will be around 50 deg. or even less.

Any information you can give us on this, or any statistics showing average burning time per day, and costs of same, will be appreciated.

S. H.

A small boiler using a 260,000 Btu per hour burner will operate more efficiently on L. P. gas than oil. In addition, no electric power will be required to operate the burner, and the

gas system will not require the periodic maintenance demanded by the oil burner to keep it in good operating condition.

Fuel engineers calculate that it costs 1½ cents per gal. for power, maintenance and cleaning the burner and boiler in addition to the price of the oil to operate a small oil burner. This immediately increases the cost of oil from 15 to 16½ cents per gal.

A small boiler with an approved gas burner should recover 75 per cent of the heat in the gas as useful heat transferred to the water. A good oil burner with reasonably good maintenance will be about 60 per cent efficient.

A gallon of propane contains about 91,600 Btu. If it is 75 per cent efficient in the boiler, 68,700 Btu will be delivered to the water.

A gallon of light diesel or stove oil will contain about 135,000 Btu per gal. maximum. Since the boiler will be only 60 per cent efficient burning oil, only 81,000 Btu will reach the water to heat it.

Then it will require only 1.18 gal. of propane to deliver the same amount of heat to the water as a gallon of oil, even though the oil originally carried 47 per cent more heat. Oil has not been unduly penalized in these figures. The oil burner will do well to maintain 60 per cent efficiency after it has operated for a while and 135,000 Btu per gal. for light stove oil is liberal.

To match L.P. gas at 13 cents per gal. the light oil would need to sell at 15½ cents per gal. (13 x 1.18). Remember the oil which is delivered to storage at 15 cents per gal. costs 16½ cents per gal. by the time it is burned.

There are many variables that af-

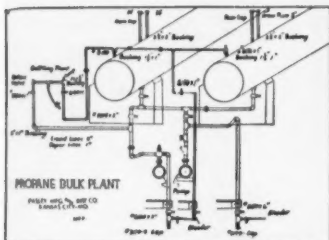
Your One Supplier with everything in L. P. gas and Anhydrous Ammonia Equipment



"The Loadmaster" LPG Truck Tank



PASLEY-DESIGNED Truck Tanks (see above and right) were first to feature all controls from one location. All operation is from one point—rear compartment.



BULK PLANTS Pasley LPG and Ammonia type installations—a turnkey job or engineering for your own installation. Write, wire or call.

Also a complete line of accessory equipment.

"Pastels By Pasley"

Blush Peach	Smoky Grey
Sunshine Yellow	Seafoam Blue
Mustard Lime	Wedgewood Green
Eureka Orchid	Rose Beige
Lake Blue	Desert Rose

COLOR—The Modern Trend! Bring your LPG Equipment up to date. Available in the following colors . . . (write for information)



"EVERYTHING IN LPG AND ANHYDROUS AMMONIA"

The Pasley Mfg. & Dist. Co.

501 East 11th Street • Kansas City, Mo. • Tel. Victor 2-2369

Letters • Continued

fect the cost of heating a swimming pool. Merely raising the temperature of the water from 50 deg. F to 70 deg. F is minor compared to the heat losses from the surface of the pool. These heat losses take place all the time and vary with the air temperature, air velocity (wind), humidity, clear or cloudy skies and shelter afforded.

We estimate that the average hourly heat loss from the surface of the pool in clear weather with 60 deg. F average temperature 20 per cent relative humidity, a five mph wind and 70 deg. F water temperature will amount to about 112,800 Btu per hour input. This means an average of about 1.64 gal. of propane per hour just to overcome heat loss from the surface of the pool and does not include the initial heating of the water.—Ed.



Central plant for pumping New Mexico

I am serving a new agricultural area near here in which the farmers are having a rather hard time of it due to the fact that they don't have a cotton allotment. In other words they are looking for some way to cut their pumping costs. In order to do this, some of them have approached me in regard to putting in a central storage and piping gas to the various pumps within a radius of about one mile.

I realize that there are a lot of variables in a deal like this but I am wondering if it is practical to service an area in this fashion and where I might get the necessary information to design the system? I need information as to pipe sizing, pressures, valving, metering, use of plastic or galvanized pipe, etc.

R. S. D.

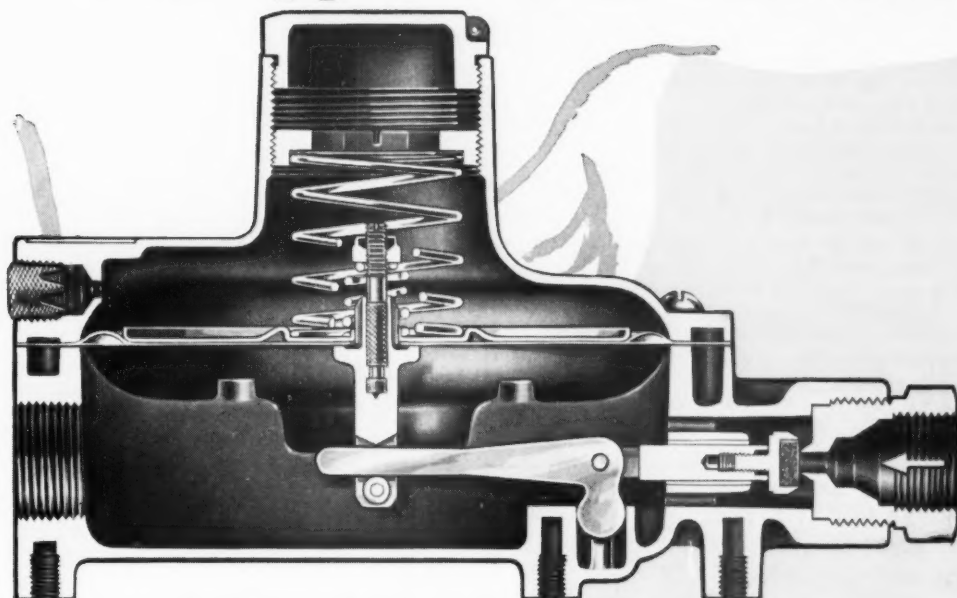
Yes, there are several problems in piping L. P. gas to pumping engines the long distances you are considering.

It will be very difficult, if not impossible, to pipe L. P. gas either above ground or underground such long distances and obtain good results.

During the hot summer months when the soil, 2 ft below the surface, is much cooler than the liquid in the storage vessel, it would probably work in a satisfactory manner. But,

**Fisher Built especially for the tank
installation of 1000 gallon
capacity or less**

The Type 932 HUSKY

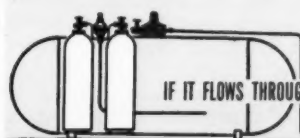


**SELECTION CHART FOR TYPE 932 SINGLE STAGE OR SECOND
STAGE FISHER LP-GAS REGULATOR**

Stage	Catalog No.	Inlet Conn.	Outlet Conn.	Orifice Size	Setting Press.		Vent	
					Inlet	Outlet*	Style	Position
Single	932-1	POL	3/4" F. NPT	1/4"	75 psi	11" W.C.	Screen Tapped 1/4" NPT	Over Outlet
Second	932-1	1/2" F. NPT	3/4" F. NPT	1/4"	10 psi	11" W.C.	Screen Tapped 1/4" NPT	Over Outlet
Second	932-1	1/2" F. NPT	3/4" F. NPT	1/4"	10 psi	11" W.C.	Screen Tapped 1/4" NPT	Over Inlet
Second	932-4	3/4" F. NPT	3/4" F. NPT	1/4"	10 psi	11" W.C.	Screen Tapped 1/4" NPT	Over Inlet

*Adjustable from 9" to 13" W. C.

Good name for this Fisher Tank Regulator. It's a rugged one. No similar size regulator on the market can match its capacity and performance. Handles all tank loads up to and including 1000 gallon installations. Adaptable to single or second stage regulation. Each one is individually tested for flow, regulation, lock-up and leakage. Write for a Fisher Bulletin on the Type 932 Husky.



IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD... CHANCES ARE IT'S CONTROLLED BY



FISHER GOVERNOR COMPANY Marshalltown, Iowa SINCE 1880

again, the selling season proves

an LPG
contract
is
no better
than
the principles
of the
people
who
signed
it!

This is the time of the "LP-Gas Year", of course, when both the producer and the dealer take a close look at their operations during the winter months.

With warmer winds only a few weeks away, February seems to focalize the attention on the important factor of contracts for the coming season — and on how faithfully promises were kept in the immediate past.

It's a time when Texas Natural recognizes the value of having kept faith with our strong dealer organization — an ever-expanding group of hard-working, aggressive, independent businessmen.

Indeed, the high percentage of contracts renewed each year, and the increasing number of new Texas Natural dealers is high incentive for maintaining the principles upon which this company was founded . . . consistent, high quality of product . . . prompt, dependable delivery . . . competitive pricing . . . and fair play for all.

TEXAS NATURAL



GASOLINE
CORP.

"NEW YEAR'S DAY"

IS JUST AROUND THE CORNER

in the LP-Gas business — because Spring means new-contract time. Call for a Texas Natural man to visit you NOW.

Texas Natural

Gasoline Corporation

ENTERPRISE BUILDING
TULSA, OKLAHOMA

Letters • Continued

when the ambient temperature and the liquid in the storage tank becomes cooler than the soil, trouble will be encountered. The relatively warm soil will boil the liquid and a mixture of liquid and vapor or all vapor will fill the pipe. It will restrict the flow and the engine will be starved for fuel unless the line is large enough to handle 100 per cent vapor.

A vapor piping system would be most satisfactory but transmission pressures must be considered with vapor too. Full tank pressure cannot be used because of condensation where the gas line becomes cooler than the storage tank. The vapor pressure must be reduced as it leaves the tank to a pressure below the dew point or condensation temperature in the coldest section of pipe through which it will flow. You could handle up to 40 psig using propane in your section of the country without encountering condensation troubles.

Pipe sizing information is provided for high pressure vapor on page 317 of the Handbook Butane Propane Gases.

A gas engine will use about 1/10 gal. or a little less than 4 cu ft of vapor per horsepower per hour. A 60 hp engine would use about 6 gal., or between 200 and 220 cu ft, of propane vapor per hour. With an initial pressure of 30 to 40 psig at the tank regulator outlet a 3/4 in. pipe 1 mile long and run direct without undue turns would deliver enough fuel for the above engine. Care must be used in assembling the pipe to prevent dirt and other foreign matter from entering it or it will collect in low places or elbows and cause serious restrictions.

Where several engines can be supplied along the route the total allowable drop can be proportioned in accordance with the length of each section and the pipe sized accordingly.

The April 1959 issue of BPN has an article on pipe sizing starting on page 38.

We do not have adequate information about plastic pipe to recommend its use in your type of service. We would consider galvanized pipe most satisfactory for your job. Copper tubing can be used if soil conditions are not such that they would cause corrosion.

Metering can be handled easily if vapor is distributed by placing a small vapor meter at each engine between a primary and secondary regulator located at the engine.—Ed.

NOW YOU CAN HAUL

11,800
WATER
GALLONS



WITH LUBBOCK MACHINE ENGINEERED T-1 TANKS

The new ASME Code and Lubbock Machine "higher payload" engineering means you can now haul 10,600 net gallons of propane in some areas with the Bodyload-and-Pup unit shown above.

***There is a difference in T-1 Tanks!
Lubbock Machine Engineering is the difference***

Through experience Lubbock Machine has found there are many ways that T-1 steel can be used to increase your payload. Let us show you how Lubbock Machine experience in engineered transport tanks can solve your payload problem . . . write, wire or phone today.



11,000 WATER GALLON PROPANE SEMI-TRAILER

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MACHINE & SUPPLY CO., Inc.

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PROVED WHERE PROFIT DEPENDS ON PERFORMANCE



TRANSPORT*

SUPER MILEAGE LUG*

*FIRESTONE T.M.

FIRESTONE, THE LOW-COST-PER-MILE TIRE FOR ON-TIME L. P. GAS DELIVERIES!

Firestone tires' low-cost-per-mile is reflected in performance records of thousands of trucks across the country. That's because 425,000,000 tire miles a year in Firestone's own truck tire testing program prove Firestone truck tires are your best buy! This vast tire testing program resulted in Firestone Rubber-X, the longest-wearing rubber ever used in Firestone truck tires. It also resulted in Firestone S/F (Shock-Fortified) cord which means extra miles of service out of every tire. Get performance proved Firestone truck tires, on convenient terms if you wish, at your nearby Firestone Dealer or Store.

Firestone

BETTER RUBBER FROM START TO FINISH

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WASHINGTON REPORT

by NEIL REGEIMBAL, *Washington Editor*

★ Ike now seeking partial REA reform

President Eisenhower is again asking Congress to boost the interest rate on government loans to REA electric power co-ops. But he is shelving for now a request for congressional action sending the co-ops to private money markets for part of their financing.

★ More social security benefits, still higher deductions

Congress wants to broaden the social security program again in '60; this would mean higher taxes for businessmen and workers. The proposals include: increasing benefits for retired persons, adding medical and health insurance, and permitting disabled persons to collect payments earlier.

★ Higher minimum wages also on way

There'll be action early this year to increase retail wages. Secretary of Labor Mitchell and a vocal group of Congressmen are planning a drive that would impose federal wage regulations on merchants and increase the national wage minimum to \$1.25 per hour.

★ First class mail rate hike due, too

Mailing costs are going up again. The Post Office Department recently won authority to boost parcel post rates by an average of 17.1 per cent. Now the Administration has asked for a one-cent boost for first class mail and air mail.

★ Housing to take early '60 dip, then recover

Government housing experts are predicting a 10 per cent drop in new home construction in the first six months of this year, primarily due to tight money conditions and high interest rates. These problems should ease by July 1, with building in the second half of the year picking up to near-record 1959 rates. The same factors will also slow additions and modernization of existing homes during the first six months. However, new commercial, business, and industrial construction should increase \$1 billion this year.

★ New weapon for bait advertising, switch selling

Federal Trade Commission agents are going to use a new four-point guide to stamp out "bait" advertising and switch selling. The guide outlaws advertising a product the seller doesn't intend to sell. Also, sellers can't misrepresent a product, hoping that when the truth is told, the buyer can be switched to a more expensive item.

★ Advanced fee scheme campaign continues

Government agents are making headway in their crackdown on fraudulent advance fee schemes, but many still exist. These operators collect a fee from a small businessman to sell his business or to get him a loan, rarely deliver service, and don't return the fees.

★ Change the estate tax laws!

Estate tax laws are one of the "greatest obstacles to the growth of small business" and one reason why many small firms are swallowed by their competitors, Congress is being told. Spokesmen for small firms are urging the House Ways & Means Committee to redraft laws which often force a firm to be sold or dissolved instead of being passed on to heirs.

Operates in Any Mounting Position

Top Mounted

Bottom Mounted

Head Mounted



No. 7580C. 1 1/4" NPT (male) Inlet; 3/4" NPT (Fem.) Outlet. Closing flow approximately 24 gpm of LP Gas.

No. 7572C. 3/4" NPT (male) Inlet; 3/4" NPT (Fem.) Outlet. Closing flow approximately 12 gpm of LP Gas.

convenient, safe, liquid withdrawal with

REGO CHEK-LOK

excess flow valves

Economical RegO Chek-Loks are specially designed excess-flow valves with the check in a closed position and the outlet plugged. They may be top, bottom or end mounted, and provide the quickest and most convenient low-cost method of connecting to the tank for liquid transfer and evacuation with complete protection against liquid or vapor losses in the event of line breakage.

A new high capacity RegO 7550 liquid transfer valve has been developed especially for use with RegO Chek-Loks.

here's how CHEK-LOK works:

Fitting the transfer valve with a RegO 7572C-14 adapter permits quick, positive connection to the Chek-Lok against a gasket, and automatically provides full opening of the check for adequate flow capacity.

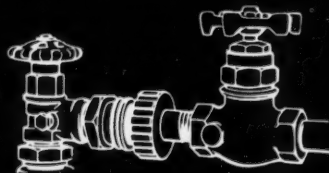
By installing RegO Chek-Loks on all your tanks, and making the high-capacity 7550 valve and adapter standard equipment on every service and delivery truck, you eliminate the need for separate transfer valves at each tank... a substantial saving without sacrificing safety!



To withdraw liquid, first remove plug from Chek-Lok unit.



Screw in RegO 7550 transfer valve. This automatically actuates Chek-Lok mechanism. Close 7550 transfer valve—pressure equalizes and check valve opens, allowing transfer valve to control liquid flow.



To remove valve after use, open transfer valve wide to slug excess-flow valve, unscrew transfer valve and replace plug in Chek-Lok unit.



DO YOU KNOW
It will pay you
dividends to join!

write for complete information

The **BASTIAN-BLESSING** Company

4208 West Peterson Avenue, Chicago 46, Illinois

Beyond the Mains

By WILLIAM W. CLARK • Editor



More power to us (public, of course)!

What appears to be the opening shot in a new public power offensive was fired at year's end. From the office of Sen. Frank E. Moss (D-Utah) came a news release on a Senate subcommittee's report on the state of electric power production in the USSR, and it was, as was to be expected, alarmist in tone.

The release had a familiar ring. "The USSR," it said, "is catching up with the U. S." Indeed, what other conclusions could we expect to hear? The Soviets are always either beating us badly or catching up rapidly. In this case, according to the subcommittee, they are catching up in electric power production, "the basic field in which supremacy counts heavily in peaceful economic competition or in the event of war."

Said the subcommittee: They'll overtake us in 1975 "unless we speed up or they slow down."

The Senators also appeared to be disturbed by the fact that the "relative contribution of hydroelectric (vs. thermal) power to total power production (in the U. S.) has decreased from 35 per cent in 1946 to 20 per cent now, with an estimated decrease to 15 per cent by 1970." In Russia, however, the percentage appears to be holding steady at 20 per cent, they said.

The Senators went on to list some of the out-sized power-generating dams now being constructed in the USSR, and to show how they are making even our largest dams appear rather anemic by comparison. For example, "Kuybyshev and Stalingrad each generate more power than Grand Coulee, which is the largest in the U. S."

In Siberia, on the Angara river, a 4.5 million kw dam, almost as large as both Kuybyshev and Stalingrad put together, is under construction. The delegation was also told about 1 million-volt transmission systems, now on the drawing boards, and of a dam in China will produce from 25 to 40 million kw.

The press release gave the subcommittee's conclusions following a 31-day, 12,500-mile tour of Soviet water and power resources last fall. The junket was made under the authorization of a Senate resolution directing the Interior Committee and the Public Works Committee to continue a study of comparative U. S., USSR, and Chinese water resource development, begun as the result of committee hearings held in 1958.

The subcommittee was composed of three senators. Accompanying them on the trip were 11 other delegates, including Alex Radin, general manager of the American Public Power Association, and Clyde Ellis, general manager of the National Rural Electric Cooperative Association and a strong advocate of public power.

It is significant to note that in the release, power *needs* in the U. S. were completely ignored. Instead, the document makes this statement: "Because the USSR uses more power than the U. S. does, the Russians could surpass us in amount of power *used* in industry by 1973."

The way that comes through to us is that the U. S. had better use more electricity or the Russians will be using more than we do pretty soon. This, we must conclude, is bad. Just why, we're not sure.

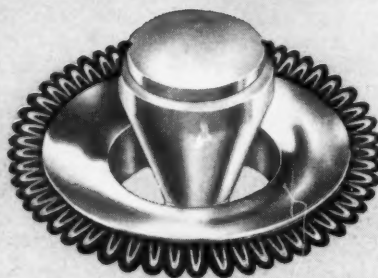
If this is a false conclusion, at least the general thesis is hardly open to misinterpretation: We're losing ground in the public power production race, so we'd best get with it. Regardless of need, we had better step up the building of public power producing facilities.

You can bet a need can be created, if NRECA has anything to do with it. More power may be used on the farms (for heating for instance) or in industry (through rural co-ops, which continue to move closer to town every year), but it'll be used, without a doubt. All we need are the facilities to crank out the juice. The peddlers of public power will do the rest.

HOP-A-LONG HARPER...the Gold Star Ranger...sez:

"Jine the Gold Star Posse...trackin' down

MORE GAS RANGE SALES"



**"Shore as shootin'
you'll round up more sales when
yore ranges are saddled-up with**

UNI-MATIC®

Flame Selector *THE BURNER
WITH A BRAIN™*

Send for FREE 20-page
UNI-MATIC Demonstration
Manual. Contains five sim-
ple, sale-closing demon-
strations.



"Pod'ner, yore prospect is just about hog-tied when you tell about the advantages of the FLAME SELECTOR UNI-MATIC. Thar's nothin' better on any range. But remember...seein' is believin'. And when it comes to corrallin' the actual sale, you jist cain't beat a demonstration. Yessiree, the Harper UNI-MATIC heat controlled burner gives you a bonanza of benefits to offer. Demonstrate 'em right...and you cain't go wrong."

*A. G. A. Mark © Am. Gas Assoc., Inc.



UNI-MATIC Flame
Selector—a basic speci-
fication for AGA "Gold
Star Ranges."



HARPER-WYMAN COMPANY

Specialists in Burners and Controls for Domestic Gas Appliances

Dept. 20-B / 8550 Vincennes Ave., Chicago 20, Illinois

SAFETY

How can we help prevent trailer fatalities?

At least 16 persons are dead because faulty heating equipment was installed in travel trailers. That these heaters burned LPG is coincidental, though unfortunate. While not legally liable, LPG men have a moral obligation to do what they can to prevent the use of improperly designed or installed equipment. What can—and what should—the industry do?

LAST fall, and up through November 24, 16 persons died in tight little travel trailers equipped with a certain type of wall panel heater labeled "Thurm," built by Thurm Engineering Corp., Elkhart, Ind.

The epidemic of tragedies could have spread and run into the hundreds—or even thousands—but for quick action on the part of the U. S. Public Health Service, state health departments, and other public and quasi-public bodies. The hunting season was at its peak in many areas. Hunters were on the move, many by travel trailers. An estimated 2000 of these trailers were equipped with the suspect heater.

Said the U. S. Public Health Service in issuing its warning: "Information . . . indicates that the heater, which burns bottled gas, has been shown to be of faulty design and is capable of building up a lethal concentration of carbon monoxide gas within a trailer in a very short time under normal operating conditions."

How come? Why, when we have ASA standards, NFPA codes, AGA

requirements, Underwriters' Laboratories listings, and all manner of available safeguards, were 2000 faulty heaters allowed on the market? Where are the loopholes in our regulatory fences? Who is responsible for the situation, and, above all, what can be done about it?

It's a complex picture. A number of possible remedies present themselves. Furthermore, among all the various regulatory agencies and industry representatives who have a direct interest, there is substantial agreement as to what sorts of safeguards would be advisable. How to make them effective is a different matter.

Here are some facts in the case:

Over a period of about 18 months, 2000 of these Thurm heaters were sold and installed in small travel trailers. The manufacturer sold them to both trailer manufacturers and dealers, which made the job of tracking them down difficult.

The heaters were rated at 8000 Btu, making them suitable for only the smallest trailers. Most of them, according to the Public Health Service, vented through the side of the

STAFF REPORT

In seeking possible solutions to the trailer coach problem, BUTANE-PROPANE News took a broad sampling of opinion among dealers, manufacturers, safety experts, and federal and state regulatory bodies. On these two pages are excerpts from their statements:

Hearborn Stone Company, Dallas, Texas

That the manufacturer did not see fit to process this product through AGA testing labs is, to say the least, regrettable. The test procedures at the AGA labs are a safeguard to the using public and, in fact, to the manufacturer himself.

Frankly, I am torn between a feeling that all gas appliances should be required to be AGA approved, and a distaste for any more legislation of one kind or another to be already have. Actually, an enhancement of education would serve better. Greater emphasis in all elements of the gas industry on AGA testing laboratories, to be AGA approved, in my opinion, quickly make it next to impossible to sell a non-AGA approved gas appliance in any area of the country. I think if the AGA, all of the gas utility companies; and, all of the gas appliance manufacturers, would join in a concerted campaign to sell the virtues of the AGA seal, an unfortunate incident of the type under discussion would be unlikely to ever happen again.

To pursue this thought a little bit further, might it not be a good approach if the AGA were to prepare a little pamphlet for distribution throughout all elements of the gas industry giving some of the salient details of the nature of the test procedures? Quality, performance, economy, durability, and safety test features, could all be emphasized prudently and without undesirable side effects. The public generally would have a new awareness of the importance of the AGA Seal of Approval. Manufacturers, such as the trailer manufacturers, a question in this case, would have a better understanding and a greater awareness of the importance to them of the seal.

To my mind, the educational-public relations approach would be preferable to anything of a legislative nature.

Erwin S. Kleinmann
Vice President-Sales

Department of Health, Education, and Welfare, Washington 25, D. C.

As to what can be done to prevent future tragedies of this type, we believe that a first step would be to apply the existing nationally recognized standards for heating, ventilation, electrical and fire safety insofar as they are applicable. We understand that some industry action along this line is already in progress.

Beyond this, we believe that comprehensive health and safety standards designed specifically for application to mobile home construction should be developed by the industry so that they can be incorporated into State regulations. We understand that a number of State governments (this is a matter over which State governments, not the Federal government, have authority) are already adopting, improving, or more rigidly enforcing regulations on the safety of trailer equipment, including installation practices.

Eugene Lehr
Chief, Program Services
Accident Prevention Program

National Fire Protection Association, Boston 10, Mass.

Unfortunately, these heaters are not approved and were installed in violation of NFPA Standard No. 901, Trailer Coaches and Trailer Courts. It is indeed unfortunate that heaters such as these were not submitted for approval or listing by a nationally recognized testing laboratory such as Underwriters' Laboratories or the American Gas Association laboratories. I have just recently heard that the Underwriters' Laboratories, Chicago, is now approving a complete trailer. This is progress. Additionally, I presume that you do know that the American Gas Association has recently processed some requirements for approval of cooking, heating, and water heating appliances to be installed in trailers. This is indeed progress.

Clark F. Jones
Gas Engineer

State of Minnesota, Fire Marshal Department, Saint Paul 1

For your information we are forwarding to you copy of State of Minnesota Laws, Rules and Regulations governing the Handling, Storage and Transportation of Liquefied Petroleum Gases, which in our opinion covers the matter about which you inquire quite thoroughly. You will note that Division VI states the requirements for gas burning installations on highway mobile vehicles, and that Section 61.0 answers your specific question.

It is our opinion that having this law places the responsibility upon the manufacturer, although it is quite evident that this in itself does not solve the problem. It may be desirable to have the manufacturer supply the enforcing agency with a data sheet for all mobile units being sold by local dealers. However, as you know, this would only solve one part of the overall problem. We would still not know the number of units entering our state which had been purchased elsewhere where no laws were governing.

We have discussed this matter with the Secretary of Minnesota Mobile Home Assn. to some length and must admit, with the exception of indicating a great interest in this problem, they do not have any answers for controlling.

S. L. Weber
Assistant Commissioner

State of Maine, Department of Health and Welfare, Augusta

It is the opinion of the writer that some responsible agency be set up to test all new models of heaters and to pass on them before releasing them for installation or sale to the public. Such agency could be similar to the Underwriters' Laboratories for electrical equipment or the American Gas Association, Inc. Laboratories. This very well could be by voluntary action of the manufacturers as a Fair Trade Standard with the publication of a Commercial Standard in cooperation with the U. S. Department of Commerce in the same manner as now being done for various commercial products.

In the absence of any recognized nationwide approval system it may be anticipated that various states will be adopting restrictive legislation or regulations for future control of such heaters and similar equipment.

E. W. Campbell, Dr.P.H., Director
Division of Sanitary Engineering

From a leading industry figure

Most states have laws which prohibit an L.P. gas man supplying gas for the use in any appliance that is not American Gas Association approved. Under the circumstances we believe that stricter enforcement of this law should be considered. We aim feel in our opinion, that no gas appliance should be used anywhere unless it does have the approval of the American Gas Association Laboratory.

Regulations covering the types of heating appliances which are installed in trailers should be considered. It is a wonder to me that more people have not been killed as a result of the methods being used to heat trailers with their gas. In some instances where people have tried to heat the trailers with their gas, even ranges and have created enough carbon monoxide to be either killed or overcome. We know of other instances where unvented heaters are used in trailers. The oil heaters being used in trailers are dangerous because in many cases they are not kept clean. The vent pipe becomes full of soot and carbon monoxide is produced.

Briefly, we do not think that any heating appliance should be installed in a trailer, particularly gas, unless it has the approval of the American Gas Assn., and we do not believe that oil heaters should be installed in trailers unless they have the approval of the Fire Underwriters.

Name withheld

Commonwealth of Kentucky, Department of Public Safety, Frankfort

First and foremost we sincerely advocate the use of A.G.A. or equivalent approval of all cooking, water heating and/or heating equipment which may be used in any confined space.

Some person or persons had to originally sell the propane for use in this unsafe operation. Was this company or its personnel interested in safety of the equipment or its future use?

We do not advocate the use of any unvented type of heater in confined places or which may be utilized for sleeping or working quarters which may be confined after installation of equipment.

We do advocate more stringent regulations of the industry through standards of safety in regards to installation and servicing of equipment and training of servicing personnel.

Howard Yandall, Chief
L.P. Gas Bureau



AMERICAN GAS ASSOCIATION, INC.
LABORATORIES

1033 EAST 64th STREET CLEVELAND 1, OHIO

December 17, 1959

AIR MAIL

Mr. William W. Clark
Editor
BUTANE-PROPANE NEWS
P.O. Box 57-307
Los Angeles 57, California

Dear Mr. Clark:

This will acknowledge your letter of December 11, 1959 regarding the unfortunate situation reported in the trailer industry with respect to LPG heating accidents. We at the Laboratories are very much aware of the situation and are trying to assist in whatever ways we can.

First, I believe that a national standard covering the installation of appliances in trailer coaches and mobile homes is an absolute necessity. Such a standard should, of course, include specifications regarding the installation of gas appliances emphasizing that:

1. Appliances must be certified as conforming with a recognized safety standard.
2. Appliances must be installed in accordance with the appliance manufacturer's installation instructions.
3. Air for combustion and draft hood relief must be in the same pressure zone.
4. Air for combustion and draft hood relief must be in the same pressure zone.
5. Unattended appliances such as water heaters or heating units should be so constructed or installed as to separate the combustion system from the air in the trailer.

I understand that the trailer industry is to sponsor a Sectional Committee of the American Standards Association for the purpose of developing a nationally accepted code which includes coverage of the installation of gas appliances in trailer coaches and mobile homes. Considering the urgency of the situation in view of the recent accidents, this group should act promptly and in concert with the NFPA group responsible for "Standards for Fire Protection in Trailer Coach and Trailer Courts", NFPA 501.

Second, to obtain full benefit of the standard it is obvious that an adequate certification and inspection procedure should be established to assure compliance with the standard prior to the time trailer coaches or mobile homes are offered for sale to the public.

December 17, 1959
Page 2

In my view, this could best be done by the trailer industry itself, perhaps through the existing associations.

We believe the establishment of installation standards and of a certification procedure to be essential, and we in A.G.A. will help all we can to make such a program a reality.

We know that this will take some time. For the interim, compliance with existing standards could be considered adequate, since the outstanding difficulties have arisen, so far as we can determine, from appliances not conforming with any standard. A wide variety of appliances are available which have been listed or approved under nationally accepted standards. Most of such listings or approvals have envisioned domestic rather than trailer installation, but we think it significant that the fatalities have not occurred in connection with such listed or approved appliances, at least so far as has been reported. Many presently listed appliances can be installed in accordance with the points outlined in my comment on trailer installations.

All of this can be done now, through the assistance of the trailer manufacturers, and we believe that such a procedure would also achieve conformance with NFPA 501 or existing state and municipal codes.

Presently we can offer our Laboratories' services in these specific ways:

- a) We can accept for test and approval central heating furnaces, water heaters and floor furnaces specifically for installation in trailers.
- b) We will accept for test other types of appliances for which standards covering use in trailers are in preparation (including ranges, room heaters or vented recessed heaters) and expedite their approval for trailer use under committee action.
- c) We will assist in any way we can in the formulation of installation codes for gas-fired trailer appliances.

As you may know, the American Gas Association has notified its member companies of the situation so that they might offer any local assistance believed appropriate.

Let me repeat that the Association staff and we at the Laboratories will assist in every way we can.

Very truly yours,

F. H. HUGHES
F. H. HUGHES
Director,
Laboratories

trailer just above the unit itself, although some did "reportedly vent through the roof." Certain larger heaters of the same general design were "not implicated in any of the incidents," PHS reported.

The first deaths were reported September 18 by the Michigan Department of Health. Three women attending a religious meeting in Lansing died in a trailer they were using as sleeping quarters. The Michigan department quickly investigated and found the heater faulty. It then contacted the manufacturer who, according to the PHS, "sought to make modifications in the design of the heater."

For some reason, the machinery of national publicity was a little slow in getting cranked up. It wasn't until five more persons, one party of two and another of three men, were found dead in Thurm-equipped trailers in the Michigan woods that the news really spread. That was in mid-November. The Public Health Service's announcement, dated November 20, stated that the two incidents happened "only last week." It stated further that "during the past two weeks, the Indiana Department of Health has been working with the manufacturer to put together a complete list of trailer manufacturers who installed the heaters in trailers and to accumulate a list of serial numbers of individual trailers so that retailers and others, including other state health departments, might be able to track down the individual trailer owners."

After the U. S. Public Health Service entered the picture, things began to move rapidly. PHS wired all state health officers, advising them to "seek all means possible" to warn trailer owners whose units might be equipped with Thurm heaters. Virtually every state broadcast warnings and went to work to trace heaters thought to have found their way into its jurisdiction.

PHS even spread the word beyond the borders, throughout the Canadian and Mexican embassies. The American Medical Association's help was also enlisted.

By November 24, the epidemic of deaths had apparently been halted. By then, the toll had reached 16.

Was the heater inherently faulty

States that do have rigid safety requirements are helpless to enforce them in certain instances.

or did the blame lie with the installations? Available reports are not quite clear on this point. Alvin Siefert, president of Thurm Engineering, was quoted on Associated Press wires as saying that "tests made after the death reports began coming in showed the heater should be vented by a straight pipe through the trailer's ceiling."

Said the AP: "In every death trailer they checked, he said, Thurm technicians found ventilation made by a short elbow pipe through the side. That saved money, he said."

The same wire story further quoted Siefert as stating that the heater was "borderline faulty." However, he laid part of the blame on "corner-cutting competition in the mobile home industry." He was quoted as telling the reporter that "'producers of small camping and hunting trailers insisted on buying the heaters—without safety thermostats—for \$13 apiece.'

"Another Thurm heater model

with a safety device to shut off the gas in case the pilot light goes out sells for \$28.

"Siefert said the cheaper heaters needed improvements in construction of the firebox and stack ventilation holes. Without these changes and a safety shut-off device, the heaters produced more gas than could be united and used. The extra gas seeped out into the trailers.

"Siefert said trailer manufacturers and dealers went past the danger point in cost saving methods of installing the heaters."

To be cruelly blunt about it, the question of whose fault it was is purely academic. For, as matters stand today, in many states almost anyone can build a heater for installation in trailers. And most anyone can install them, without regard for safe engineering practice. Even those states that do have rigid safety requirements are helpless to enforce them against trailers built elsewhere and brought into the state.

Let's examine the anatomy of the regulatory equipment available to prevent such tragedies. There are codes which cover trailer coaches and trailer appliances and systems. The National Fire Protection Association publishes NFPA 501, "Standard for Fire Prevention and Fire Protection in Trailer Coaches and Trailer Courts." The famous Pamphlet 58, "Standard for the Storage and Handling of Liquefied Petroleum Gases," the bible of all LPG dealers, contains a division headed "Cylinder Systems for Cooking, Heating, and Refrigerating Installations on Highway Mobile Vehicles."

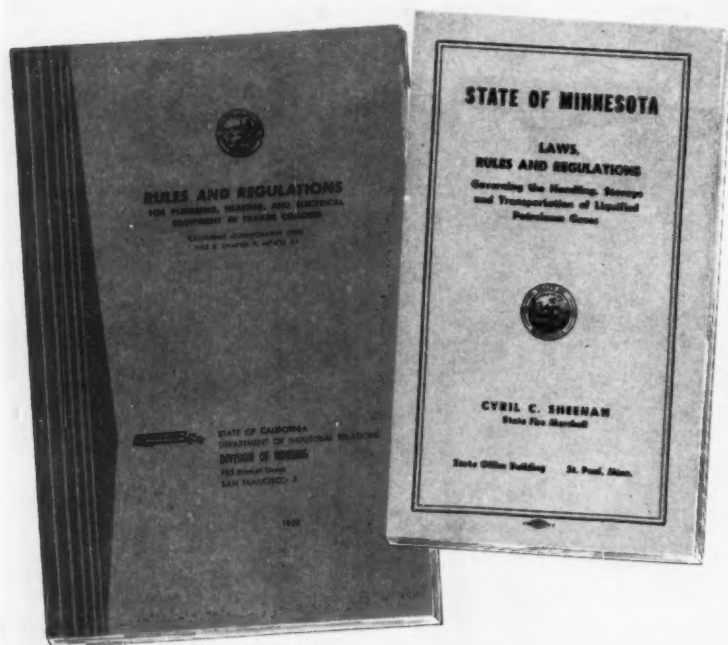
Both appliances and installation methods are included in these standards.

Standards, however, are only useful insofar as they are adopted. The federal government has no authority to impose regulations upon travel trailers or mobile homes, so there is no framework within which it might effectively adopt them. Enforcement is a state matter, and few states have moved very far in the direction of accepting these standards and establishing means of making them mandatory.

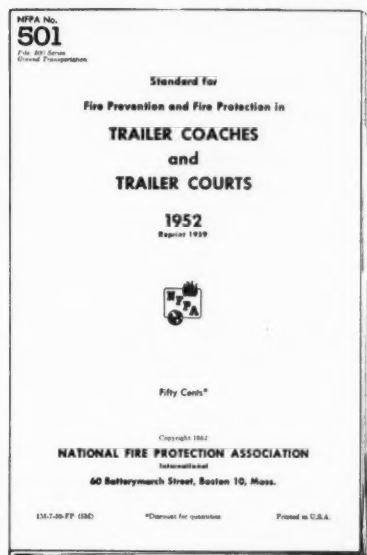
Furthermore, these standards do not spell out requirements on appliance construction, but assert that they must be approved by a nationally recognized testing agency (AGA Laboratories are specifically mentioned) or by the enforcing authority having jurisdiction. This is the same wording as is employed in Pamphlet 58's section on "Basic Rules." The shortcoming lies in the lack of American Standards Approval Requirements for testing of appliances for use in mobile homes and trailer coaches.

This latter situation is presently being rectified. The AGA Approval Requirements Committee has now approved three standards. These cover water heaters, floor furnaces, and central heating. A fourth, covering ranges, will reportedly follow.

Having these standards and an adequate set of requirements, will



The California or Minnesota code may be adopted by other states.



NFPA No. 501, prepared by the committee on trailers and trailer camps, was adopted by the National Fire Protection Association at its 1952 annual meeting. It is now in course of revision by the Committee.

state bodies take action to see that they are complied with?

Some, no doubt, will. All those that have adopted the provisions of Division VI of Pamphlet 58 will have the necessary ammunition. But will they have the guns to shoot it with?

For example, consider the case of Minnesota. There Pamphlet 58, Division VI, is followed in the applicable statute, but, as Assistant Commissioner E. L. Weber says:

"It is our opinion that having this law places the responsibility upon the manufacturer, although it is quite evident that this in itself does not solve the problem. It may be (desirable) to have the manufacturer supply the enforcing agency with a data sheet for all mobile units being sold by local dealers.

"However, this would only solve one part of the overall problem. We would still not know the number of units entering our state which had been purchased elsewhere.

"We have discussed this matter with the secretary of the Minnesota Mobile Home Association at some length and must admit . . . they do not have any answers for controlling."

The state of California is reputed to have one of the finest codes for

trailer coach construction in the U. S. Plumbing, heating, and electrical installations are covered. All coaches built after Sept. 1, 1958, which are sold or offered for sale in the state must meet its requirements. Such trailers are provided with an insignia of approval and are furnished with a warranty.

The California code was established by the state's Division of Housing in conjunction with the Trailer Coach Association, a group of manufacturers supplying the western states. Since all but two of these companies are located in California itself, the standards to which their trailers measure up are for all practical purposes effective throughout the West.

Yet California was unable to close the gates on the defective heaters. According to the Division of Housing, at least 64 of the Thurms were known to have been shipped into the state. All of them were uncovered in the division's search, so a possible tragedy in that state was averted.

Howard Yandell, chief of the L. P. gas Bureau, Kentucky Department of Public Safety, cites a parallel in his state. He speaks of "another safety problem . . . the use of small unvented bathroom heaters and a 20-lb cylinder in the cabs of trucks. We have had one fatality resulting from this use," he says.

"We sincerely believe that we do not have any licensed dealer in the Commonwealth of Kentucky who would have previously or would

now sell propane for use as a heating agent in any such installation."

The truck was from Florida. If Mr. Yandell's faith in Kentucky dealers is merited, the cylinder must have been filled out of the state.

Once a vehicle—or a trailer—comes into the state, how is it going to be made to conform to local laws? Who is to be charged with the inspection of it?

The suggestion has been made that LPG service and delivery personnel be deputized to make inspections of such equipment. Insofar as this might make the man's employer liable for accidents, it is an unwise suggestion. Any action that could be construed as an assumption of liability by a dealer should be avoided.

On the other hand, a dealer is under no obligation to serve a trailer customer. If he has good reason to believe that the potential customer's equipment or installation is unsafe, he should by all means refuse to supply gas for it. He should assume a moral rather than a legal responsibility.

Perhaps his greatest responsibility is to press for a long-range solution. He should do all in his power to keep the issue of unsafe equipment alive. He should exert what influence he has upon the state bodies, upon the trailer manufacturers, the court owners—anyone in a position to establish and enforce good safety regulations. In short, he should make the tragic lesson of the 16 deaths stick. ■

In order to show the status and growth potential of the mobile home industry, John O'Connor, executive director of the Trailer Coach Association, has supplied BPN with the following up-to-date information:

- Approximately 150,000 house trailers are being produced annually in the U. S., with a total gross of \$650 million.
- The percentage of trailer parks now equipped for natural gas is approximately 15 per cent, up

10 per cent from 1957 figures. However, any new trailer park being planned today, where natural gas is available, would plan to use natural gas.

- Today 3.5 million persons live in trailers. It has been estimated by sociologists that 10 million could be living in parks by 1970.
- In 1949, 11 years ago, 46,000 mobile homes were manufactured. The industry has more than tripled in 11 years.

Beginning a four-part series

Automatic controls for LPG heating equipment

**The twin requirements of heating controls—
safety and comfort—
and how they are achieved in today's systems.**

EXCLUSIVE

Automatic heating in the past few years has become so commonplace that we frequently take it for granted. Yet it is a complex subject, for there are several basic methods of achieving automatic controls, and there are many systems which employ these methods in a variety of ways. A knowledge of these systems and how they function will help us select the right one to obtain the degree of comfort and convenience desired. It will also enable us to service them intelligently.

In this four-part series, Lyle W. Davidson, director of field education for Minneapolis-Honeywell's residential division, discusses first, how safety and comfort are achieved in today's systems; second, how these systems are applied to various types of LPG heating equipment; third, how standard heating systems can be refined to obtain better performance; and fourth, servicing policies and procedures. Here's the first part. The remaining three will appear in succeeding issues.

BECAUSE L. P. gases have so many domestic uses (cooking, heating, lighting, air conditioning, water heating, refrigeration, incineration, etc.) their utilization as a prime fuel has increased rapidly. Accompanying the fast growth of heating uses has been a parallel demand for automatic control of the systems.

In order to develop adequate controls, it was necessary to determine what elements needed to be controlled. Basically, as in all heating systems, there are two—safety and comfort.

Safety controls are those which shut off the gas flow to both the pilot and the main burner, in case of pilot failure, or to the main burner in case of high temperature conditions. Comfort controls are those which provide even and comfortable temperatures in the occupied space.

Recognizing these control necessities, let's develop the methods used to achieve this control. There are many types of control systems, and many different ways of classifying them. One method is to define them in terms of their source of power. Obviously, the simplest type of control system is the hand-powered.

In the control industry, the most common type of control is electric. There are several reasons for this. First, a source of electric power is usually readily available. Sec-

The two types of self-operated systems

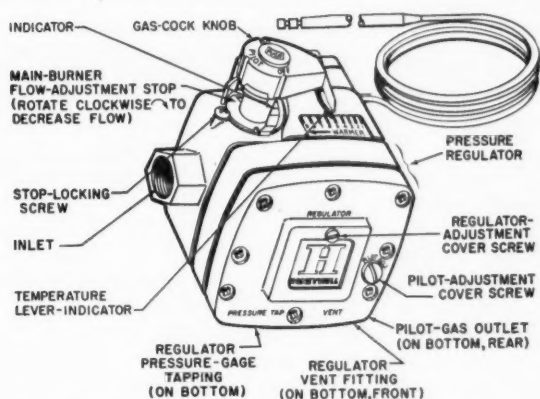
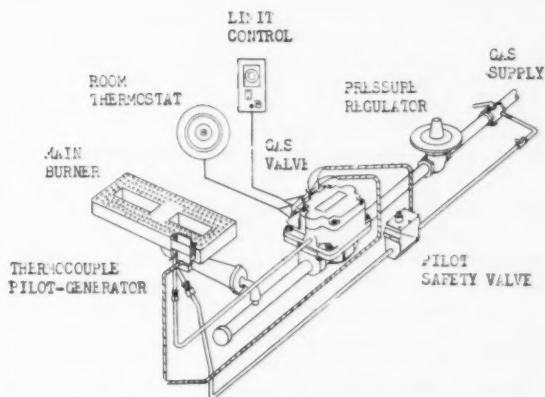


Fig. 1 (left). Self-contained system. Sensing element and final control mechanism are combined in one instrument. Fig. 2 (right). Self-powered (millivoltage) system. Power to the valve is furnished by the thermocouple pilot-generator. If the pilot should



extinguish, or become too small to light the main burner safely, the power is interrupted and the gas valve closes. This blocks the flow of gas to the main burner. The pilot safety valve also closes.

ond, an electric system is simple and easy to install. Third, relays can be used for operation of equipment from weak signals. Fourth, the use of electricity readily permits the use of remote control.

Electric control systems are usually broken down into two basic types:

Low-voltage systems—These usually operate from the secondary of a step-down transformer supplying 25 volts or less. The advantages of this system are: (a) Low-voltage wiring is usually less expensive to install than line-voltage wiring. (b) Low-voltage controllers have smaller mass and, as a result, increased sensitivity.

Line-voltage systems—These receive their power from the normal electrical supply voltage of 120 or 240 volts. This type of system is used in applications where control of heavier equipment, without the increased sensitivity of a low-voltage controller, is desired.

The self-contained, or mechanical, system (see Fig. 1) has found wide use on smaller appliances, such as space heaters. Here the sensing element and the final control mechanism (most often some type of valve) are both usually contained in a single instrument. The sensing element, such as a bellows or bulb filled with a fluid, expands and contracts with tem-

perature changes to operate the valve. These controls are entirely self-contained and need no outside source of power to operate.

Another type of control is the self-powered or millivoltage system (see Fig. 2). Strictly speaking, this is an electrical system, obtaining its power from a pilot generator which utilizes the thermocouple principle to generate approximately $\frac{3}{4}$ of a volt—enough to operate a small pilot valve. This valve, in turn, opens the main valve. No outside source of electrical power is needed.

Even though two or more automatic control systems may utilize

the same power source, they may not accomplish their purpose in the same manner. The method in which a particular system acts is called its "control mode." The oldest and least complex of these systems is simple two-position, or "on-off," control. It is also called "positive-acting" control. Simple two-position control is in common use for line-voltage, low-voltage, or millivoltage control of domestic systems.

Let us consider, for example, simple two-position control as applied to a domestic heating system such as is found in the average home. There are many variations of this type of system, but in each the operation is basically the same. A centrally located thermostat operates a gas valve in the heating system to supply heat to the space.

Now, suppose the thermostat is adjusted so that the dial, or setting scale, indicates the room is to be maintained at a temperature of 72 deg. When the temperature in the space drops below 71 deg., heat is required. When the temperature rises above 72 deg., no heat is required. Thus, a range of temperature is set up between the "burner-on" and "burner-off" positions of the thermostat. This range of temperatures between which the thermostat must operate (71 to 72 deg.) is called the "differential." In this case it



Lyle W. Davidson is director of field education for Honeywell's residential division.

"Undershoot" and "overshoot"

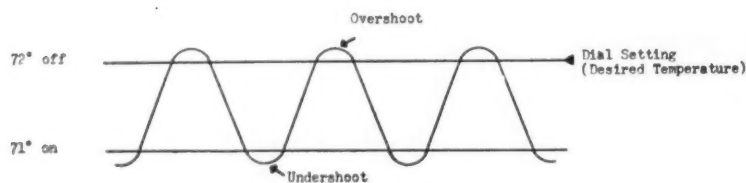


Fig. 3. Typical operating conditions of line-voltage, simple two-position control system.

would be referred to as a "differential of 1 deg."

The operation of this heating system can be shown graphically. Fig. 3 shows the fluctuations in room temperature at the thermostat as the space heating plant is turned on and off by variations in this temperature. Notice that the thermostat is so adjusted that the burner is turned on at 71 deg. and off at 72 deg. when the temperature-adjusting dial is set for 72. This is referred to as the calibration of the thermostat. Most simple two-position thermostats are calibrated to turn the heating equipment off when the room temperature reaches the dial setting.

As can be seen from the graph of Fig. 3, the room temperature varies considerably more than the 1 deg. differential of the thermostat. This is caused by the fact that, as the room cools down, there is a slight lag in the system. When the room temperature decreases, there is a transfer of heat from the sensing element of the thermostat to the room air. In other words, the thermostat will not quite "catch up" with the drop in room temperature. When the sensing element temperature has dropped enough to turn on the burner, the room temperature will

have dropped still farther. By the time heat is finally delivered to the space, the room temperature is below 71 deg. This is called "undershooting."

As the space is heated the process is reversed. There will be a transfer of heat from the room to the temperature sensing element. Because the element has some mass, a certain amount of time will be required before it has warmed up enough to turn the burner off. In the meantime the furnace will still be delivering heat to the space and, by the time the thermostat turns the burner off, the room temperature will be above the "off" setting of the thermostat. This is known as "overshooting."

Undershooting and overshooting are characteristic of simple two-position thermostats because the thermostat never quite catches up with the fluctuations in room temperature. Temperature swings may be anywhere from 3 or 4 to 10 or 15 deg.

The ideal method of heating any space is to replace the heat lost in exactly the quantity needed. With two-position control this is difficult to do because the heat is either "full on" or "full off," and

the heat delivered is either too much or too little. Hence we have undershooting and overshooting.

A more exact method of heat delivery is low-voltage, timed two-position control. With this method the "burner on" periods are shorter and more frequent. This reduces the large temperature swings and provides for a more even flow of heat.

For example, a two-position-controlled heating system with a 50 per cent load would have to operate 50 per cent of the time, or 30 minutes out of every hour. This operating time could be divided up in several ways: 30 minutes on, 30 minutes off; 10 minutes on, 10 minutes off; 1 minute on, 1 minute off, etc.

In most cases, longer cycles would produce greater overshooting and undershooting. The shorter the cycle, the steadier the flow of heat. However, mechanical heating equipment is not built to operate at cycles as short as 1 minute. Therefore, the optimum practical cycle is about 5-10 minutes, which is what timed two-position control provides.

The basic operation of the timed two-position system is the same as the simple two-position system, except that artificial heat is added to the sensing element to shorten the heating cycles. As we pointed out, this evens out the heat flow.

A small resistance heating element (see Fig. 4), placed so that it conducts most of its heat to the sensing element, is energized when the burner starts. This increases the heat applied to the sensing element, so it heats to its "off" position sooner.

With an artificial heater, the

. . . are modified by the application of artificial heat to produce

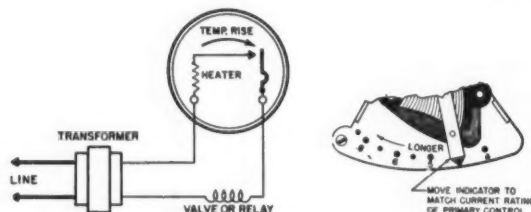


Fig. 4. Location of the heater element in the circuit is shown at left. At right an adjustable heater which may be regulated to fit individual situations.

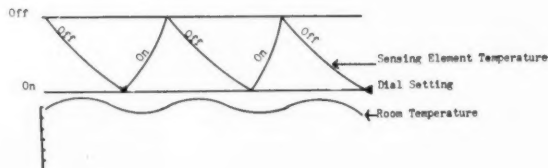


Fig. 5 Timed two-position control under light load conditions. Note that "burner-on" period is relatively short being of less duration than "burner-off" period.

duration of the "burner on" cycles is lengthened as the heating load increases because more heat is being lost from the controlled space. This causes more heat to be transferred from the heater to the space, and less heat to be transferred to the element. The sensing element then takes longer to heat to the "off" position. Conversely, the "off" time is shorter with a heavy heat load because the element cools to the "on" position faster than under light load conditions. This is illustrated in Figs. 5, 6, and 7 which show typical low-voltage, timed two-position operation under light load, 50 per cent load, and design load, or 100 per cent operation.

Figs. 5, 6, and 7 show both room temperature and sensing element temperature. As the load is increased, the "burner on" period also increases. At the 100 per cent operation condition in Fig. 7, the heat loss from the heater and sensing element is so great that the element never quite reaches the "off" position.

Notice, also, that as the heating load and "burner on" time increased, the room temperature decreased slightly. The longer the artificial heat is applied, the more the room temperature is reduced, because the thermostat is actually controlling the burner in response to two conditions; actual room temperature and the artificial heat applied to it. The greater the heating loss, the greater the difference the thermostat will sense between actual space conditions and the condition created by the artificial heater. This deviation between desired room temperature, as set on the thermometer dial, and the

actual room temperature, is called offset (or droop).

Maximum offset is obtained at design load conditions. Minimum offset can be obtained with proper heater location and a minimum differential (number of degrees the sensing element must change to move the thermostat contacts from "on" to "off," or "off" to "on").

Most low-voltage, timed two-position thermostats are calibrated to turn the heating equipment on when room temperature falls to the set point (dial setting). Line voltage thermostats are calibrated at the "off" point. Because of the amount of current involved, artificial heat is not practical for line voltage thermostats.

With self-contained control systems, modulating control can be used as well as the simple two-position control. This is practical because of the characteristic gradual expansion of liquids, gases, or metals when exposed to heat. This gradual action is used to slowly open or close the controlling valve in direct proportion to the change in temperature. The lower the temperature falls, the wider the valve opens to provide more fuel as the heating load increases.

Whether the control is two-position or modulating, automatic control systems are divided into three basic parts; a sensing element, controller mechanism, and an actuator.

A temperature sensing element can be a bimetal; or it may be a bellows or a bulb filled with either liquid or vapor. Regardless of the type used, it must expand and con-

tract as the temperature changes to furnish the movement necessary to actuate the controller mechanism.

The controller mechanism provides an electrical switching action or movement of some type of mechanical linkage.

The actuator responds to this switching action or linkage movement to perform its function—open or close a valve, or start or stop a motor. The actuator controls the flow of fuel, as in the case of a valve, or the distribution of heated air, such as fan action, etc.

These three control elements function together to provide comfortable temperatures for the occupants of the controlled area. With this type of automatic control, the occupant merely sets the controller mechanism dial at the temperature he desires.

Incorporated into this system are the necessary controls to provide safe operation. For instance, to prevent unburned gas from accumulating in the combustion chamber, the gas flow to the pilot and the main burner may be cut off in case the pilot should go out. This is generally done by a flame sensing device which closes a gas valve when no pilot flame is present.

Another safety device often incorporated has a sensing element which prevents further operation of the main burner if abnormally high boiler or stack temperatures are attained.

Subsequent articles will describe the application of these automatic control principles to L. P. gas heating systems. ■

timed two-position control

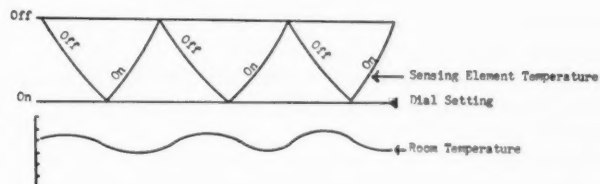


Fig. 6. Timed two-position control under 50 per cent load. "Burner-on" period has lengthened considerably in relation to the length of "burner-off" period.

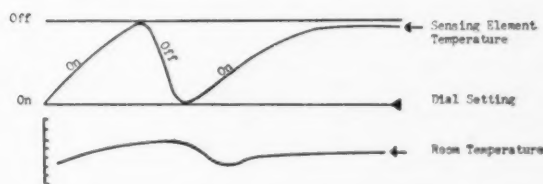
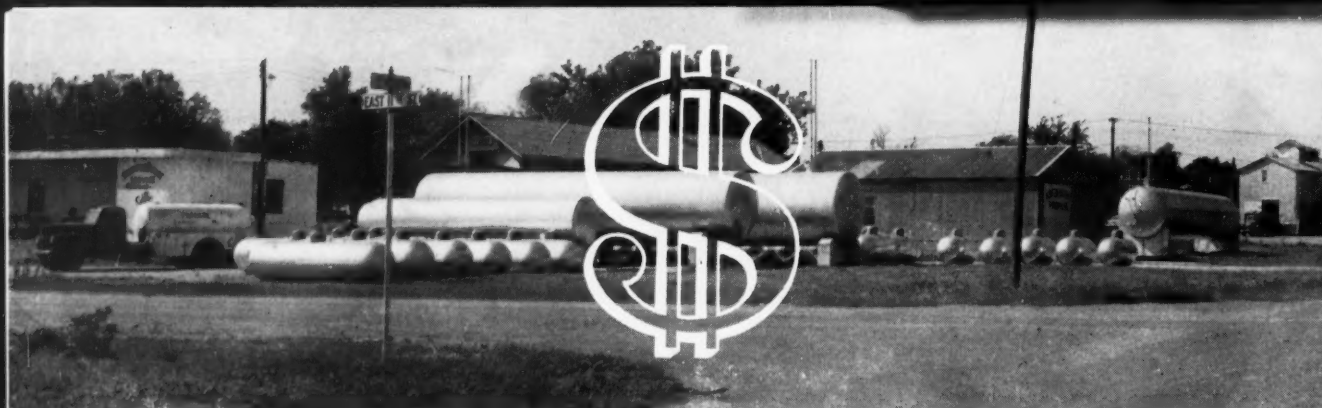


Fig. 7. Design load, 100 per cent operation. Under this condition, heat loss is so great that element never quite reaches the "off" position."



Financing an LPG business—part 1

MANAGEMENT

HOW TO BORROW MONEY

WILLIAM W. CLARK • Editor

NEEED money? Lots of dealers do. Even many of those who might not think they need it could still use it advantageously to increase their profits.

Assuming you need it (or could use it), are you able to get it? If you're having trouble here, you have company.

Many dealers are finding that their own primary lending agency, their banker, is giving them the cold shoulder.

Why should this be? Aside from the obvious reasons—general business conditions, the high cost of money, or maybe he just got up on the wrong side of the bed that morning—there is one basic reason that seems to be common to a great majority of LPG dealers:

You're getting too big!

Instead of needing nickels and dimes, you need dollars. To get them, the old, informal way of approaching your banker will no longer do. You've got to submit to much closer scrutiny than in the past. You've got to be able to prove your case.

And you've got to do a selling job!

Any loan must be made on sound business risk principles.

But the larger the loan, the more stringently these principles must be applied. The emphasis shifts from the less tangible to the more tangible criteria.

For example, your good name is important. When the loan you seek is a small one, you may have to satisfy only a relatively few requirements. Among these, business reputation looms large. But as the loan gets bigger, there are so many other tests that must be applied that your good name becomes relatively less important.

You can still get the kind of loan you need, but in order to do so you must know what lenders want to know, and how to satisfy them.

Several important questions

In general, here are the questions a banker asks himself when you apply for a loan:

1. Are your records adequate? If so, what do they show?
2. Is the business being managed properly from a financial standpoint?
3. Is it large enough to warrant a loan of this size?
4. Are you *desperate* for money?
5. Do you have too many claims on your assets already?
6. Is the business making money?
7. Are you planning ahead so you *know* you can repay the loan?
8. What do you propose to use the loan for?

It takes money to make money, but sometimes it's awfully hard to get. Your banker is a logical source—but is he giving you the cold shoulder these days? Here, in the first installment of a three-part article, are some possible reasons why, and some suggestions for warming him up.

If these measures still do not succeed, you'll find some more drastic suggestions in the next two installments, appearing in March and April.

A detailed balance sheet can tell your banker a great deal about your business, help get that loan.

FIG. 1. SIMPLE BALANCE SHEET

Assets:	
Cash	\$ 3,000.00
Accounts receivable	4,000.00
Inventories	7,000.00
Land	4,000.00
Buildings	12,000.00
Equipment	9,000.00
Total Assets	\$39,000.00
Liabilities:	
Notes payable	7,000.00
Accounts payable	5,000.00
Accrued liabilities	1,000.00
Reserve for taxes	2,000.00
Ownership	24,000.00
Total liabilities	\$39,000.00

9. Are you asking for the right type of loan? That is, are you asking for a short-term loan when you need a long-term loan (or vice versa)?

10. Are you asking for the right amount of money? Not too much or—just as important—not too little?

11. Will the loan be *productive*?

12. What are general business conditions?

13. What are business conditions within your industry?

14. What is the nature of your business—are you dealing in necessities that will be in demand in bad times as well as good?

To be able to answer these questions for the banker, you must do a lot of work, planning, and preparation. You must really *study* your own business, analyze it, and remedy what faults you can. In fact, these are questions that you should ask yourself first, and for which you should be satisfied you have the answers, before you even approach the banker.

The first question—Are your records adequate?—holds the key to how well you can answer many of the other questions. So let's look at your records.

Much has been said and written about the need for good records. You know you must have an income statement and a balance sheet, and they must be sufficiently detailed to give a picture of your operation. But records are only a means to an end. They are only useful as they

are *used* and *analyzed*—by you as well as your banker. You don't need them simply to show whether you have made a profit. You can total up your assets and liabilities at the end of the year, and if the former have grown in relationship to the latter, you're in. It's as simple as that.

Yet you might be in danger of losing your business. Only good records, properly analyzed, can show you that. And they can show you what to do about it.

Let's take a quick look at a few balance sheets to see what a good one should show. The simplest balance sheet (see *Fig. 1*) would simply list assets (cash, accounts receivable, inventories, land, buildings, and equipment) and liabilities (notes payable, accounts payable, accrued liabilities, reserve for taxes, and ownership).

This doesn't really tell much. You could improve it by breaking out current assets and current liabilities, and grouping assets as follows (*Fig. 2*):

Assets—Current assets: cash, accounts receivable, and inventories.

Other assets: land, buildings, and machinery.

Liabilities—Current liabilities: notes payable, accounts payable,

accrued liabilities, and reserve for taxes

Ownership

This type of balance sheet shows whether you are solvent and by how much. The measure of your solvency is the amount by which current assets exceed current liabilities (in the example, 14,000—15,000 = -1000). That's your actual working capital.

The simplest balance sheet looked fine. But, using the same figures, the more complex sheet would show that too many of your assets were tied up in land, buildings, and machinery. Your current assets are completely inadequate.

Reserve accounts

Now your banker will want to know whether you have provided proper reserve accounts. Unfortunately, you're not going to collect every receivable on the books, so don't kid yourself. Set up a reserve for bad debts or "doubtful accounts." Your inventory figure is not foolproof either. Pilferage, deterioration, price changes, obsolescence all eat into it. So you need a "reserve for inventory losses."

No doubt you already have a "reserve for depreciation" to cover wear and tear on your buildings, equipment and other fixed assets.

These should next be added to your balance sheet (*Fig. 3*). After you have deducted each from the corresponding asset, you find that you're not really worth as much as the simplest balance sheet seemed to indicate.

However, there is a ray of hope: You will probably find that your biggest write-downs are in the categories of reserve for depreciation and reserve for inventory losses. Therefore, the position of your working capital *relative* to your inventories will be better, and this is very important.

Cash, not receivables

And in the broad category of current assets, the most important single item by far—take it from

FIG. 2. SEGREGATED BALANCE SHEET

ASSETS	
Current assets:	
Cash	\$ 3,000
Accounts receivable	4,000
Inventories	7,000
Total current assets	14,000
Land	4,000
Buildings	12,000
Equipment	9,000
Total assets	\$39,000
LIABILITIES	
Current liabilities:	
Notes payable	\$ 7,000
Accounts payable	5,000
Accrued liabilities	1,000
Reserve for taxes	2,000
Total current liabilities	\$15,000
Ownership	24,000
Total liabilities	\$39,000

Your most important current asset is your cash, not your receivables

your banker—is your cash, not your receivables. Thomas W. McMahon, Jr., vice president of Chase Manhattan Bank, New York, declares, "If additional sales volume can be gained only by carrying slow receivables, the prize is usually not worth the game."

"Keep in mind that it is cash, not receivables, that pays the bills."

How about inventory, Mr. McMahon?

"Many small companies erroneously assume that inventory *per se* is an adequate basis for bank loans. Of course it is a factor . . . but . . . an excessive investment in inventories can and often does lead to either insolvency or a frantic infusion of new capital . . . The moment a company's inventories exceed the amount of net working capital, cash and receivables are insufficient to cover current liabilities."

Let's look at net working capital, then, just as your banker would. How much must you have to keep your business going? This can be determined by checking back in your records to find when your accounts receivable and inventory

were at their highest levels. At that time, your current assets less current liabilities represented the smallest amount with which your business could operate and still keep going. It was the time when the greatest amount of working capital was tied up.

These relationships are extremely important to your banker. He breaks them down into "ratios," stacking one asset against another asset, or against a liability, to see how flexible your business condition is.

Two of these ratios are simple, basic yardsticks and they show at a glance your ability to pay your bills when due. The first is your Current Ratio, which is obtained by dividing your current liabilities into your current assets. Take your current liabilities—notes payable, accounts payable, accrued liabilities, and reserve for taxes—and lump them together. Let's say they total \$20,000. Then take your current assets—cash, accounts receivable, and inventories—and total these. Let's say they come to \$50,000. Now divide the \$20,000 into the

\$50,000 and you come up with a figure of 2½. This is your Current Ratio.

It looks good. Bankers generally use a rule of thumb which says that an acceptable current ratio should be at least 2 to 1—that is, \$2 of current assets for every \$1 of current liabilities. So you're in good shape here.

Quick assets ratio

But suppose, although your current ratio looks good, you have too much tied up in inventories. How do you find this out?

Your banker uses a "Quick Assets Ratio."

Let's assume your inventory amounts to \$40,000. This isn't a "quick asset," so you eliminate it from current assets, leaving a total of \$10,000 in cash and good receivables. Now divide your current liabilities (\$20,000) into it, and you come up with your Quick Assets ratio, which is ½ to 1 (\$10,000 / \$20,000).

This is inadequate. Even if your receivables are solid accounts, you won't have enough coming in to pay your bills. On the other hand, if the ratio was 1 to 1, it would pass muster. You could pay your bills even if you don't move a nickel's worth of stock.

Remember, then, it's possible for your Current Ratio to be satisfactory and your Quick Assets ratio to be entirely inadequate.

Now let's look at that balance sheet again. You'll note that in figuring your Quick Assets ratio, we assumed that your receivables were solid ones, all collectible. But how fast are they paying? If they are lagging each month, you'll find yourself sinking slowly into a quagmire of frozen assets.

It's important to analyze receivables on the basis of age—or, as the accountant says, to "age" them. One purpose of this is to give yourself better control of your credit—a 90-day-old account is a risky one, and if you see too many of them stretching out to this age, you'd better take some quick action. But the process of aging accounts re-

FIG. 3. BALANCE SHEET SHOWING RESERVES

ASSETS	
Current assets:	
Cash	\$ 3,000
Accounts receivable	\$ 4,000
Less reserve for doubtful accounts	500
	3,500
Inventories	7,000
Less reserve for inventory losses	1,000
	6,000
Total current assets	\$12,500
Land	4,000
Buildings	12,000
Less reserve for depreciation	2,000
	10,000
Equipment	9,000
Less reserve for depreciation	2,000
	7,000
Total assets	\$33,500
LIABILITIES	
Current liabilities:	
Notes payable	\$ 7,000
Accounts payable	5,000
Accrued liabilities	1,000
Reserve for taxes	2,000
Total current liabilities	\$15,000
Ownership	18,500
Total liabilities	\$33,500

ceivable will also give you a pretty clear idea of whether your cash position is deteriorating or not.

Here is how your banker analyzes "aged" receivables. He multiplies total accounts receivable by the number of days credit normally extended in your business and divides this by credit sales for the month. For example, suppose your accounts receivable are on 30-day nominal credit. They now total \$4000 and your credit sales this month total \$3000. The banker would multiply \$4000 by 30 days (\$120,000) and divide by \$3000. The answer, 40, would be the number of days the average bill is outstanding. Thus, your collections would've run 10 days behind.

We have cited some ratios as being "good" ratios, for rule-of-thumb use. But actually, in appraising a situation, a banker doesn't apply them universally. He is likely to look at the over-all figure for the industry.

Average ratios

For most sizeable industries, average ratios are available from several sources. Your banker uses the appropriate one as a yardstick by which to measure the soundness of a particular loan. Unfortunately, there are none available for the L. P. gas industry (and this is undoubtedly just one more reason why it may be more difficult for you to obtain a loan).

However, there are yardsticks which, with a little shortening here and lengthening there, might be applied to your situation. One is the Dun & Bradstreet "Ratios for Oil Jobbers." Figures for a recent year are shown in Table 1.

If you would care to make a really detailed analysis of your condition, check it against the statement studies (see Table 2) prepared by Robert Morris Associates, the national association of bank loan officers and credit men. These figures are for coal, ice, and fuel

oil dealers doing less than \$250,000 worth of business each year.

In these studies, each major category—assets, liabilities, and income data—is shown as 100 per cent, and every increment of each is shown as a percentage of the 100 per cent total. Eleven significant ratios are also shown.

If your statements reflect all these items, they will certainly be "adequate" by any banker's standards. The figures they contain, however, may leave something to be desired. Therefore, it would be wise to study them carefully yourself and take whatever steps are necessary to get them into line as nearly as possible.

The balance sheet talks

In summation, then, from the balance sheet your banker can judge (1) whether your records are adequate, (2) whether you have proper financial management, (3) whether your business is large enough to warrant the type of loan you are seeking, (4) whether you are desperate for money, and (5) whether you have too many claims on your assets already.

An income statement will partly answer the question, (6) Is the business making money? But one income statement may not be sufficient to tell the whole story. Is income rising or falling—and if so, how fast? Your banker will want a series of statements covering a representative period so that he can see what the profit trend looks like.

If the trend is downward, this doesn't necessarily mean he will deny your application. If there's a logical explanation for it, and if it appears you are taking steps to rectify the situation, he may still wish to give you a green light.

Cash forecast

In any case, one thing he is certain to want to know is (7) Are you planning ahead so you are reasonably sure you can repay the

TABLE 2.

ROBERT MORRIS ASSOCIATES STATEMENT STUDIES

COAL ICE AND FUEL OIL ASSET SIZE		UNDER \$250M
Number of Statements		28
ASSETS		%
Cash		9.02
Receivables Net		37.77
Inventory Net		22.88
Marketable Securities		1.34
All Others		1.28
Total Current		72.28
Fixed Assets Net		25.16
All Others		2.56
Total Non Current		27.72
TOTAL		100.00
LIABILITIES		
Due to Banks		6.21
Due to Trade		23.24
Income Taxes		1.01
All Others		7.65
Total Current		38.11
Other Long Term debt		2.65
Total Debt		40.76
Net Worth		59.24
TOTAL		100.00
INCOME DATA		%
Net Sales		100.00
Cost of Sales		77.21
Gross Profit		22.79
All Other Expense Net		21.24
Profit Before Taxes		1.55
Income Taxes		.53
Net Profit or Loss		1.02
RATIOS		
Current		190.00
Worth/fixed		235.00
Worth/debt		145.00
Sales/receivables	43	814.00
Cost Sales/inventory	34	1038.00
Sales/inventory		1344.00
Sales/fixed		1222.00
Sales/worth		519.00
Profits/worth		5.30
Sales/total assets		307.00
Profits/total assets		3.14
Thousands of Dollars		\$
Net Sales		10094
Total Assets		3283
Coal, Ice and Fuel Oil		
Number of Statements		14
INCOME DATA		%
Net Sales		100.00
Cost of Sales		77.45
Gross Profit		22.55
Selling & Delivery Exp		9.09
Officers Salaries		4.04
Other Gen Admin Exp		7.72
All Other Expense Net		.61
Profit Before Taxes		1.10
Income Taxes		.46
Net Profit or Loss		.64

TABLE 1. DUN & BRADSTREET "RATIOS FOR OIL JOBBERS"

Ratio	Average	Upper 25%	Lower 25%
Current assets to current liabilities	1.82	2.33	1.55
Average collection period (days)	35	28	39
Current liabilities to tangible net worth	63.5	36.9	97.3
Inventory to net working capital	57.5	30.2	102.4
Current liabilities to inventory	203.1	106.8	396.1

"FLEET OPERATING COSTS HAVE BEEN CUT 20%



Francis J. Schuster, executive vice-president of Troy Fuel Oil, Inc., Indianapolis, Indiana, is as familiar with the trucks in his fleet as he is with every other phase of the successful fuel oil delivery operation established in 1930. Troy Fuel Oil Co. uses 23 Ford Trucks to deliver its products to customers within a 35-mile radius of their Indianapolis terminal.



"Our experience with Fords has proved that you can run a fleet of trucks more efficiently if you pick one make and ride it. We save on maintenance costs because our mechanics are fully familiar with Ford's design.

"And, with an all-Ford fleet we don't have to stock a large parts inventory to be able to handle all repairs. We can get those heavy items we don't stock delivered to our shop an hour after ordering.

"Detailed cost records kept during the first five years of our Ford standardization program show that these and other related savings reduced our fleet operating expenses more than 20%.

"The units we use range from pickups to tandem axle tractors and we find that Ford Trucks fit our requirements to a tee. The fact that Ford engines are made to run efficiently at a high rpm rate lets us select high numerical

rear axle ratios which give us longer power train life. Since most of our engine load is in pumping, and we don't need more than 45 mph in city delivery, we can use a smaller engine and still get good acceleration.

"And Ford's Tilt Cab design gives us bigger payloads due to higher front axle loading. This is particularly true of our C-700 unit which carries 2,200 gallons of fuel oil for home deliveries."

SINCE WE STANDARDIZED ON FORD TRUCKS!"



Troy Fuel Oil Company's C-700 shown at the loading area is only 18½ feet long and is such an attention-getter that they have used it in their exhibit at the Indianapolis Home Show for the past three years.

Troy drivers like the maneuverability and easy ride they get with Ford's Tilt Cab Trucks. Turning tight corners and getting out of blind alleys is no chore with their Fords.



Big Fords for '60 are built for longer life...with Certified Durability

Whatever your job... wherever you do it... you'll discover just as Mr. Schuster did, that Ford Trucks are the best investment you can make for your transportation dollar.

Certified results of tests conducted by America's leading independent research organization (name available on request) confirm the fact that Ford Super Duties have been refined to make them more durable than ever before. Automatic radiator shutters, improved electric fuel pumps, and redesigned wiring harnesses are typical of the advancements to be found in these units.

Automatic radiator shutters reduced the coolant temperatures recorded in severe mountain road tests from a range of 79° to a 20° range. Engine operation between the temperatures of 167° and 187° means less expansion and contraction, more efficient combustion and better lubrication... all of which contribute to longer engine life.

Dynamometer tests showed no vapor lock with Ford's submerged-type electric fuel pump at temperatures up to 200°. Incipient vapor lock with mechanical fuel pump resulted in a power loss of 9% under the same conditions. Shaker table tests plus constant exposure to oil, water and heat proved 1960 wiring harness to be *three times longer lived*.

Test results like these plus the experience of satisfied users are important, but that is not all. For 1960, the Super Duty line has been broadened to provide even more flexibility in power train options. Get the facts from your Ford Dealer!

FORD TRUCKS COST LESS

LESS TO OWN... LESS TO RUN...
BUILT TO LAST LONGER, TOO!

You must sell your banker on your industry as well as your company

loan when it falls due? Here again, your present situation cannot give him the whole answer. If you are applying for a short-term loan, he will want to see a Cash Forecast.

Such a forecast is invaluable to you, too. It helps to:

1. Point out and give advance warning of seasonal needs.
2. Build up funds for maturing debts.
3. Assist in planning expansion.
4. Indicate when funds are available to invest on a short-term basis.
5. Help you take better advantage of cash discounts.

A forecast is a fairly simple tool. You simply take your present cash balance, add all anticipated cash receipts for the coming month, subtract the month's anticipated disbursements, and arrive at a Cash Forecast for one month from today. You can then project this, month by month, for about the next six months. This should be done with as much science as you can apply, perhaps using last year's figures (adjusted for changes in present conditions), carefully aging accounts receivable to establish reliable estimates of income from this source, etc.

(Of course, you've probably already done this—after all, it was when you found out that next August is going to be a tight month for cash that you decided to apply for the loan!)

What will you do with the money?

Your banker is certainly going to want to know what you plan to do with the money (8). This ties in with other questions such as (9)

Are you asking for the right type of loan, (10) Are you asking for the right amount, and (11) Will the loan be constructive?

Is it for working capital or for fixed capital? This is a very important question in your banker's mind. Generally, he will look with more favor upon a loan for working capital because the proceeds of the loan go into relatively liquid form. At the same time, the term of the loan will be shorter. If you need the money for seasonal inventory or to carry accounts receivable, for example, a short-term loan is desirable.

Loans for a longer term are generally suitable for buying fixtures and equipment. Here it is the earnings on the investment, not the cashing of the asset, that provides the means of repayment.

A loan must be large enough to do the desired job—obviously. And it should also be constructive. In the main, it should better your position in the long pull. It should not be speculative.

Your banker is probably well able to supply the answer to (12) What are general business conditions?—much better than you can. But if he is like most bankers, he will be hard-put to gauge business conditions within your industry (13). Nor will he know (14) the nature of your business, and how sensitive it might be to the general condition of the economy.

Sell your banker

Here is where a good part of your sales ability and superior knowledge should be brought into play. You have, for example, the

latest Phillips and Bureau of Mines reports, which are published in *BUTANE-PROPANE News*. Use them to show him how the business is growing year by year. Explain your markets and your market potentials. Show him how you are building year-around load. Show him what your industry is doing to hold the line on freight rates, to build up underground storage, etc.

Show him how your sales have paralleled those of the industry over the past decade or so. Point out your own particular strengths. Tell him about the marvelous new appliances now on the market, and about how some of the big names in industry are coming into the gas appliance field.

This business of educating your banker should not, however, be a one-shot, hat-in-hand affair. You should get to know him fairly well, and should talk with him on intimate terms about your own business from time to time. Discuss last year's business and current prospects even when you are not actively seeking a loan. Remember, he stands in a fiduciary position—that is, he occupies a position of trust, so deal with him openly.

The Small Business Administration suggests you regard him as you do your dentist—that is, see him once a year.

"Need money?" we asked at the outset. Even if you think you don't, you might be able to use it to good advantage. We'll explain how in next month's installment. We'll also tell you how you might be able to obtain financing from other sources if your banker turns you down. ■



There's a good size investment in a bulk plant such as this. But these are fixed assets. A banker is more interested in current

assets and certain ratios. To him, your cash position is highly important.



...What's cookin'?

LP-Gas contract customers of Sid Richardson Gasoline Co. always know what's cookin when it comes to LP-Gas price and supply.

A "Richardson contract" gives them more assurance of on-time shipments of top quality product at competitive prices. They are not in competition with company-owned or controlled wholesale or retail outlets.

Sid Richardson **GASOLINE CO.**

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INSTALLATION-SERVICING

Two steps to cylinder-bottom protection. Pat Murray of Red-E-Gas taps the foot ring and bottom with a tool to chip away loose scale and rust. Then he applies the phenolic coating with a linen-bristle mop. The whole job takes less than half as long as other coating methods, where surface sanding is required.



Red-E-Gas adopts a new foot-ring coating

THE life expectancy of LPG cylinders exposed to corrosive soil conditions may be lengthened materially by the application of a new foot ring coating, according to Emil Reutner, chairman of the board of Red-E-Gas Co., St. Louis.

Red-E-Gas has been one of the first companies to adopt the new coating, which is a phenolic com-

pound containing a plasticizer.

The phenolic itself is not new, having been previously applied to deep well pumps, chemical tanks, and other types of equipment. But it was brittle and cracked under harsh atmospheric conditions, opening up holidays through which corrosion could be introduced. Such cracking obviously defeated


the purpose of the coating. Inspection was necessary every year. Therefore, it was considered impractical for use with volume items such as LPG cylinders.


A plasticizer, it was felt, would be the answer. Combining with the phenolic, it would give elasticity to the coating. Yet it was imperative that it not offset any of


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Emil Reutner of Red-E-Gas surveys stacks of cylinders that need a quick application of foot-ring coating to prevent further deterioration. Red-E-Gas is one of the first companies to adopt the new phenolic coating.

the phenolic's anti-corrosion properties.

This requirement blocked the adaptation of the material until Charles Grigsby, head of Lorraine Coatings Inc., was able to develop a suitable plasticizer.

The corrosion problem has always been particularly acute in foot rings and cylinder bottoms. Planted firmly in the ground, the rings are subjected to constant dampness in the soil. The air circulation provided by the ring slots is insufficient to carry off all the moisture. The result is anaerobic corrosion—attack by bacteria in the soil. The deterioration of the foot rings spreads to the weld joints and to the cylinder bottoms, shortening the useful life of the entire cylinder.

A number of preparations have been used over the years in an effort to halt the process. Fish oils and asphalts have been two of the most popular ingredients of late, but some paint chemists hold that they actually have very little resistance to bacterial action.

One manufacturer undertook to find a coating that would resist corrosion and be easy to apply. He retained Grigsby, a bacteriologist and chemist with a long record of

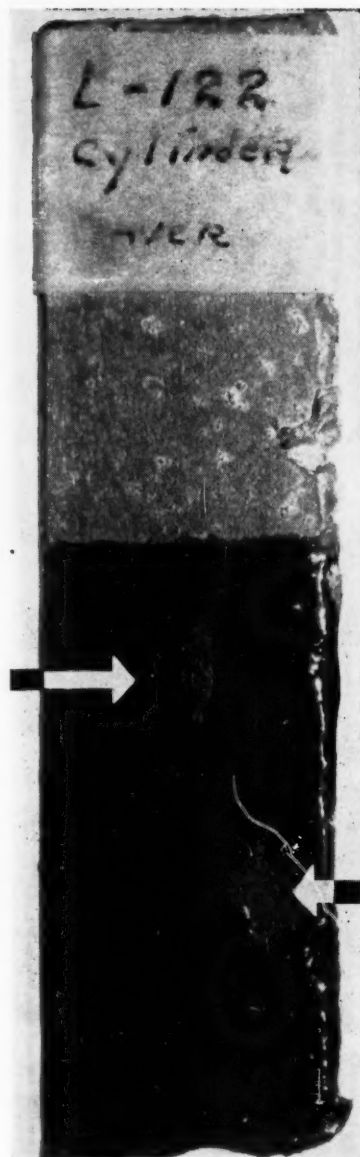
developmental work in coatings. Grigsby had spent several years with Kraft Foods, where for a time he was director of product quality control, before forming his own concern.

Phenolic looked like the answer. Phenols are a family of resins that are by-products of several industrial processes involving organic compounds—coke plants, for example, and destructive distillation processes. From them are made hard plastic-like resins.

It had already been repeatedly demonstrated that these compounds had an unusual ability to adhere to rusted metal surfaces.

Thus it was only necessary to come up with a suitable plasticizer to make the phenolic compound adaptable to foot-ring painting.

The cost of the new paint is said to be about 25 per cent higher than fish oil paint, but it requires no primer coat, and covers more square footage. Labor is claimed to have been cut in half, since the phenolic may be applied over rusted metals with no prior sanding or surface preparation. The only preliminary work needed is the removal of mud, dirt, and other foreign matter, and a few taps on the foot-ring with a hammer to shake loose rust and scale. Even existing coatings need not be removed, but may simply be covered with the phenolic.



Penetrating qualities of phenolic are illustrated with an iron bar which was allowed to rust completely over entire surface. A 3-mil-thick coat of black phenolic was applied with a mop. Two areas were then scraped (arrows) to remove the coating. The phenolic had penetrated completely through the rust to protect the bare metal.

Further labor cost savings are made possible by the method of application: it's done with a linen-bristle mop rather than a brush.

Initially, Red-E-Gas has been using the material on cylinders already needing attention. By applying it to new cylinders, Reutner believes he may be able to stretch cylinder life by a third. ■

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Jerome Apt (left), president of Industrial Gases Inc., discusses a carburetion problem with Joe Casey, a Beam Co. carburetion specialist, who has been working with Apt's company.

Between metal conditioning and carburetion, this Pittsburgh firm has succeeded in nailing some large industrial accounts. One, the company has found, can be used to sell the other. Which came first? Take your choice!

Industrial Gases finds the perfect load combination

WILLIAM T. HARPER • Eastern Editor

THE utilization of propane as a replacement of acetylene in industrial metal conditioning is relatively new. But, it is fast growing. A prime example of this fact is Industrial Gases Inc., located just outside of Pittsburgh, Pa. It has been in the liquefied petroleum gas business only since February 1958, and already is selling about 540,000 gal. of propane per year.

"But," says Jerome (Jerry) Apt Jr., company president, "we should be selling 10 times as much within a year. We're just starting to catch up with the industrial needs of this area and the existing plants are expanding all the time."

Included among the reasons for this rapid growth in the use of propane and oxygen for such things as non-ferrous welding, cutting, brazing, scarfing, and flame hardening is an improved safety factor. Other reasons are cost savings up to about 75 per cent; smoother cuts and sharper edges, and reduced materials handling.

Since the turn of the century, metal workers have used a combination of oxygen and acetylene for all of the applications noted above. With the passing of years, the techniques and equipment were improved and refined while the heat-producing material



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"THE TOUGH BUYERS' LINE"

Cutting and welding glossary

The following is a brief glossary of some of the more common terms in cutting and welding:

ANNEALING: A process whereby metals are subjected to high heat with subsequent coolings, which softens them thoroughly and makes them less brittle. Hence, it also tempers or toughens the metals.

BRAZING: A process defined by the American Welding Society as a "group of welding processes wherein the filler metal is a non-ferrous metal or alloy whose melting point is higher than 1000 deg. F., but lower than that of the metals or alloys to be joined."

Cutting of metals depends primarily upon the reaction between hot iron and oxygen in the oxy-acetylene process. When a metal is raised to a heat above red, the iron combines with the pure oxygen in the oxy-acetylene torch and actually burns. The metals then become molten and flow off.

DESEAMING (scarfing): The removal of surface defects—just those defects that are apparent—with hand equipment in steel during its manufacture.

FLAME-DESCALING: A process used to remove oxide and encrustations from metals while they are hot. In this process scale being subjected to the rapid heat of oxy-acetylene flames becomes extremely hot while the metal under

it is cold. Then the top surface expands rapidly and the brittle bottom layers snap away with considerable force.

FLAME HARDENING: The heating of a metal surface with the oxy-acetylene flame until it is bright red and then quenching it with water. This in turn means the production of a hard wear-resistant surface. Flame gouging is to metal working what chiseling is to woodworking. It is used to remove weld defects revealed by visual or X-ray inspection and it is also used for the quick and accurate removal of a narrow strip of surface metal from steel plates, forgings and castings.

BACKFIRE (flashback): The improper operation of the blowpipe, which causes the flame to go out with a large snap or pop. It may be caused by touching the tip against the work, by overheating the tip, or by operating the blowpipe at other than recommended gas pressures.

BLOWPIPE: The tube in which the oxygen and the gas are combined to make the flame needed for the different applications, such as cutting and welding.

FERROUS METALS: Those which have a large iron content such as cast iron, steel, etc. This is contrasted to non-ferrous metals such as aluminum, brass, bronze, etc.

—oxygen and acetylene (oxy-acetylene)—remained the same. However, within the past few years, it has been discovered the substitution of propane for acetylene produces a better quality of heat. This combination of propane and oxygen is now known as the "oxy-propane" process of metal conditioning.

Prior to 1958, Apt had been in the business of supplying acetylene to industrial users throughout the Pittsburgh area. After becoming convinced of the advantages of the substitution of propane for this

work, he signed an agreement to get Gultane products exclusively. He also had installed a 30,000-gal. propane bulk tank. His product is currently delivered to him by transport but he is building a second plant on the east side of Pittsburgh and this one will have a railroad siding.

Industrial's customers are now divided into three categories: (1) carburetion; (2) carburetion and metal conditioning; and (3) metal conditioning. These propane-using customers include some of the great steel mills in the Pittsburgh

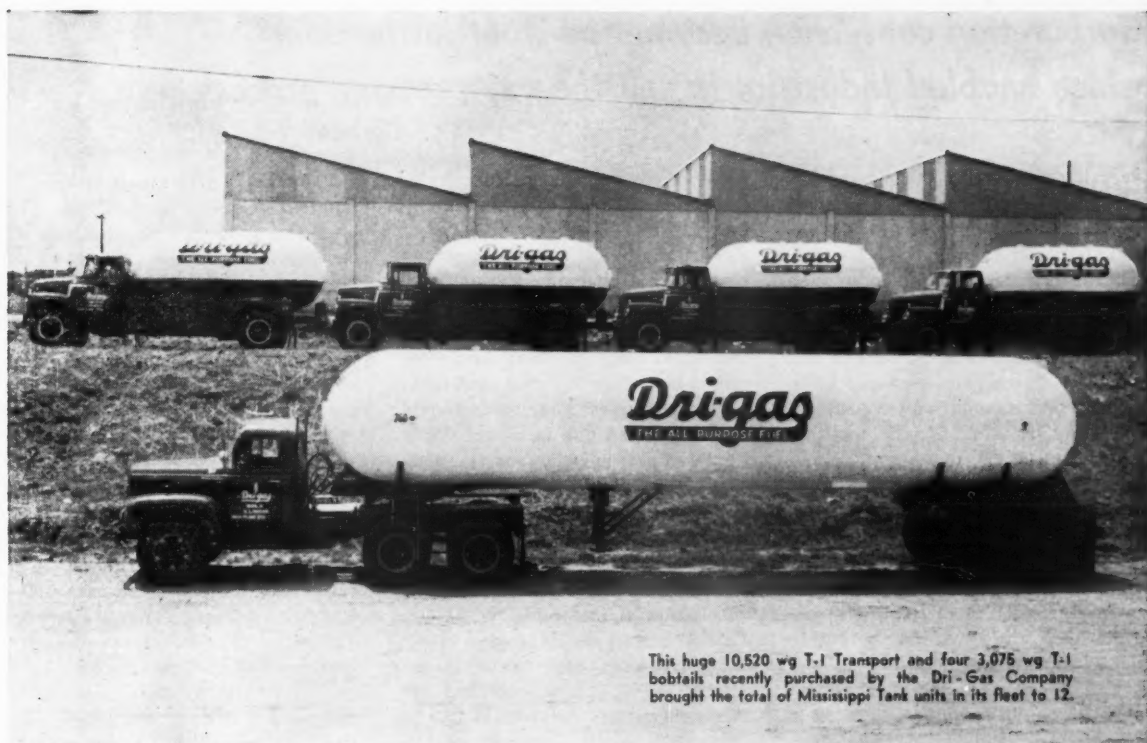
area which use the product for carburetion in fork lifts and other materials handling equipment. They also use it for metal conditioning. Food processing and beverage bottling companies in the area are carburetion customers while others, such as concrete and cinder-block manufacturers, are among the dual-purpose users of propane.

Apt discovered when he went into the LPG business that many people in the area were dead set against propane. This, he discovered, was due to what he calls "Mickey Mouse-type" of installations that had been made in the past and which proved unsatisfactory. But, he had one thing working to his advantage as he tried to get potential customers to convert to LPG. Many of these large companies were nationwide concerns with plants scattered across the country. Those plants in other locales had been using propane for varied reasons and had been given proper installation and service. When the Pittsburgh-area factories checked with their branch offices (at Apt's suggestion) and got glowing reports of the advantages of LPG, many decided to give Industrial a chance to convince them. That was all Apt needed.

He sent a couple of free cylinders of propane into different plants and let the companies try it out in the metal working. Apt felt that all he had to do was to get these people to work with propane and it would sell itself. It did.

To further help overcome any resistance to liquefied petroleum gas, Apt ran a complete LPG information and installation school at the buyer's plant. These classes were informal, in the question-and-answer format.

When Industrial started making carburetion conversions, Beam Products sent Joe Casey, a carburetion specialist, to help teach Industrial's personnel the mechanics of conversion. In the first 18 months of operation, Industrial sold close to 300 conversion units. With Casey-trained personnel, Industrial has installed about 50 per cent of these jobs. The others were put on by the purchasing customers. "And, let me add," boasts Apt, "that none of these jobs has



This huge 10,520 wg T-1 Transport and four 3,075 wg T-1 bobtails recently purchased by the Dri-Gas Company brought the total of Mississippi Tank units in its fleet to 12.

Repeat Sales mean the Product is Right!

Nothing indicates the success of any product like repeat sales. And we at Mississippi Tank have built our company on repeat business. Take the example of the Dri-Gas Company, which has 40 bulk plants located throughout the seven Midwestern states. Dri-Gas bought its first T-1 delivery, a Mississippi Tank Titan, in September, 1957, and since then has added 10 more T-1 bobtails to its fleet—all *Mississippi Tank Titans!*

Dri-Gas has found that top payload isn't all there is to Mississippi Tank units. Constant use has proven that they're built stronger to carry the extra load. Operating records show outstandingly low delivery costs per gallon due to trouble-free operation and minimum downtime.

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Carburetion conversion became the "foot in the door" which enabled Industrial to sell the oxy-propane process.

ever been taken off. Our program so far has been 100 per cent successful."

This carburetion success is what has made it possible for Industrial to build up the metal conditioning phase of its business. Apt has found that once the customers became convinced of how proper LPG service and installation saved them many dollars on materials handling equipment costs, they became more willing to try propane for their metal conditioning. In other words, carburetion conversion became the "foot in the door" which enabled Industrial to sell the oxy-propane process. And, it is in this field that Apt feels the greatest potential lies.

The steel companies are cited as being a particularly large load builder for Industrial. All steel producing companies have their own "captive" railroads; that is, a railroad right within the plant grounds. It is needed for hauling the heavy, bulky finished and unfinished steel products from one section of the plant to another. It is only natural that the railroad cars so used are subjected to a terrific beating as they are pounded by tons and tons of the raw materials used in steel making. Now

no steel company can afford to be replacing railroad cars on an annual basis. Therefore, they must repair their own. And they can best do this by using the oxy-propane process for cutting away the parts of the cars that need repair. One steel company that Apt mentioned burns its battered cars right down to the ground, saving only the trucks and chassis. From there, they rebuild the body of the railroad cars. This company buys about 1000 gal. of propane per month from Industrial for this purpose.

Of course, the idea of LPG carburetion sales leading to metal conditioning sales as mentioned above in this article, also works in reverse. This same steel company has informed Apt that it would like to convert its in-plant materials-handling fleet to propane. When this conversion is completed, that steel company will be buying nearly 4000 gal. of LPG per month from Industrial.

As previously noted, safety is one reason companies decide to use propane instead of acetylene for metal conditioning. Acetylene causes flashbacks due to its unstable condition. Furthermore, time is lost in re-starting the torch.

Propane is also much more economical. Generally speaking, Apt cites the following as examples of cost savings: If the customer had been using generated acetylene, he can save 65 per cent of his costs by switching to bulk propane. He has also found that oxygen consumption remains the same as with acetylene so there is no cost increase there.

As a specific example of cost savings, Apt mentions one of his customers who uses 5000 gal. of propane per month for metal conditioning. The cost of this is \$1800 for which the customer gets 180,000 cu ft of propane at 2250 Btu. This customer formerly used acetylene. Its Btu content was only 1450 per cu ft and 310,000 cu ft of it was needed to do a comparable job. For that he paid \$6200 per month. Thus, by using the oxy-propane process in place of oxy-acetylene, this customer was able to save \$4400 per month on gas costs alone. This figures out to a saving of \$52,800 per year.

It is again stressed that these savings are in gas costs *alone*. This does not include the safety aspects nor does it include time and material lost due to flashbacks. It also does not include savings made possible by a decrease in material handling of the gas. For instance, a 60 lb cylinder of propane is comparable in size to the standard acetylene cylinder. But, the propane cylinder contains about 510 cu ft of gas as compared with approximately 300 cu ft of gas in an acetylene cylinder. What with the difference in Btu content, a cylinder of propane will last about 3½ times as long as its acetylene counterpart. This, in turn, reduces material handling costs and time by more than one-third.

Not only that, but a cylinder full of acetylene weighs about 250 lb. A 60 lb propane cylinder weighs



Here's one of the two bulk delivery trucks used by Industrial Gases Inc. to deliver a part of the 540,000 gal. propane load the company has built up so far. A third such truck is on order, due to the increasing demand for LPG by Industrial's metal conditioning and carburetion customers. Note the LPG fuel tank to the rear of the truck's cab. Apt and Casey have also converted their private automobiles to propane power.

STAFF REPORT

BUTANE-PROPANE News

EAST, WEST, NORTH OR SOUTH— THE STORY'S ALWAYS THE SAME

Oklahoma Distributor has 250 Tractors on Cities Service LP-Gas

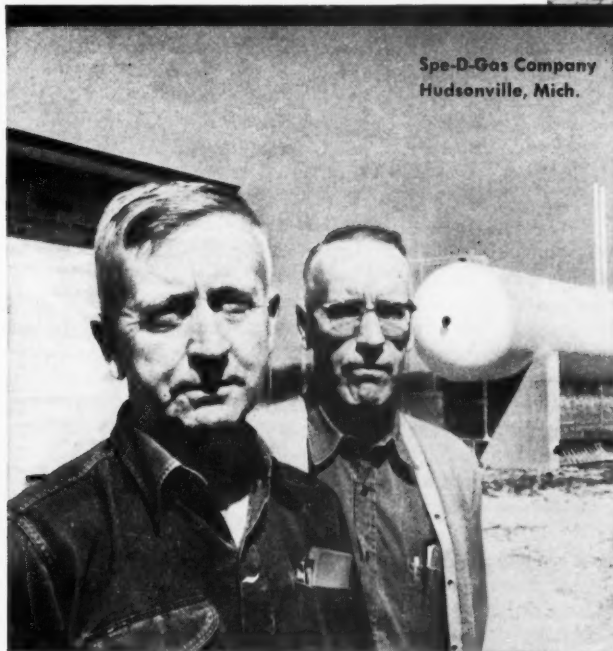
Farms run big in Oklahoma . . . some being described in miles instead of acres. Kelle Oil Company sells 90% of its Cities Service LP-Gas for farm use.

Aubrey Kelle, partner in Kelle Oil states, "Farms are good year-round customers . . . and they're permanent. Oklahoma farmers use LP-Gas for everything from heating to air conditioning. Cities Service was a great help to us when we were first getting started in 1951. Technical help has continued to be excellent and service couldn't be better."

Kelle Oil Company
Braman, Okla.



Spe-D-Gas Company
Hudsonville, Mich.



Michigan Distributor Celebrates 20 years with Cities Service

The Hubbard brothers, partners in Spe-D-Gas, have been selling Cities Service LP-Gas since 1939. Now, as it was two decades ago, Spe-D-Gas sells most of its Cities Service LP-Gas in cylinders.

Serving the Hudsonville area out of their plant, Spe-D-Gas has hundreds of customers for bottled gas. W. G. and L. C. Hubbard have conveniently located their plant near the Cities Service two-way pipeline from East Chicago. "Our main storage is over there," says W. G. Hubbard, indicating the Cities Service storage terminal. Cities Service has several such terminals strategically located throughout the Midwest to serve distributors of LP-Gas.



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701 Sherland Building
South Bend 1, Indiana

500 Robert Street
St. Paul 1, Minnesota

3101 Euclid Ave.
Cleveland 15, Ohio

7730 Carondelet Ave.
Clayton 5, Missouri

170 University Ave.
Toronto 1, Canada

1658 East Euclid
Des Moines 13, Iowa

626 E. Wisconsin Ave.
Milwaukee 2, Wisconsin



Oxy-propane metal working gives smoother and sharper cuts; Less slag forms, and grinding wheels last 2½ to 3 times longer.

only about 120 lb when full. This is a definite advantage for those employees who must move these cylinders from place to place. Again, a safety factor is present here as the workers are less prone to strains and bruises when handling the lighter cylinders. This, too, is a cost factor with LPG, companies do not lose the services of their employees nor do they have as much workman's compensation expenses to face.

Besides these advantages propane can do a better job of metal conditioning, too. For example, the use of acetylene in cutting causes the metal being cut to harden, and a rough slag builds up on the edge of the cut metal. This is due to the extreme heat (5600 deg F in the oxy-acetylene process) which literally boils the metal. This does not happen as much when propane is used due to its lower heat (5100 deg F). When this slag forms, it becomes necessary for further machining processes—such as grinding, rolling, etc.—to remove the slag and finish off the cut. Because less slag forms with oxy-propane, grinding wheels (that cost about \$75 each) last from 2½ to 3 times longer.

Still further, oxy-propane metal working gives smoother and sharper cuts. Apt recalls the story told by one of his customers, a large fabricator who had a job of building a huge wind tunnel for the federal government's National Aeronautics & Space Administration. The wind tunnel was to have doors nine inches thick and these required a bevelled cut. "Had this company been using acetylene," Apt claims, "it would not have been able to cut close to the dimension line due to slag buildup and this would have left them with a couple of thousand hours of machining still to do. But, by using oxy-propane, the company was able to cut right up to the dimension line. The smoothness of the cut made additional machining unnecessary. This saved the NASA several thousands of dollars."

Typical of Industrial's customers is the Angelo Lang Concrete & Block Co., in nearby Carnegie, Pa. Here cinder blocks used in housing and building construction are made. The Lang Co. uses Industrial's propane both for metal working and carburetion. It has three forklifts that are LPG-pow-



A workman at the Angelo Lang Concrete & Block Co., uses an oxy-propane mix in building one of the steel racks the company uses to store its finished cinder blocks upon.

ered. Also, the finished cinder blocks are stacked on metal shelves. The Lang Co. makes and repairs its own shelves and uses the oxy-propane process for this. Presently, this company is using about 3000 gal. of propane per month. But, due to increasing business and complete satisfaction with the product, the company plans to enlarge its current 1000 gal. storage tank facilities soon.

Industrial delivers gas both in bulk and cylinders. About 90 per cent of its metal conditioning customers prefer to have their LPG delivered in cylinders while 30 per cent of the carburetion users are bulk customers. Apt generally sells the bulk equipment to the customers. In any case, however, he does not have any demurrage charges. Apt also gives a one cent per gal. discount to customers using more than 5000 gal. per month.

Routing problems are slight for

Industrial. The customers are served on a weekly or semi-weekly basis with the same customers getting their fuel on the same day of each delivery week. Some customers are on a "will-call" basis; that is, they call Industrial when they need fuel. To take care of these deliveries, Industrial has two cylinder delivery trucks and one transport. A third cylinder-delivery truck will be bought soon.

One of the big factors leading to the success of Industrial's metal conditioning load buildup was Apt's ability to design special torch tips. He knew that the tips used in the oxy-acetylene process would not be suitable for propane because the mixing chambers were too small. Due to the greater specific weights of oxygen and propane, a larger mixing chamber in the tips was needed. Apt, a graduate mechanical engineer from Carnegie Tech, designed new tips. "This is the only change of equipment needed to convert from acetylene to propane," states Apt, "and these new tips only cost about \$4.50 each."

Industrial Gases Inc., is delivering over 500,000 gal. of LPG annually. Apt sees this load mushrooming to over 5 million gal. Metal conditioning and carburetion uses by the industries of the Pittsburgh area will account for this load growth. All of this just goes to prove that there's gold in them thar mills. ■



"I know it was a good summer load, but was it necessary to throw Jones in on the deal?"

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and reduces the strain on the truck pump. Rego engineers, in conjunction with Master engineers, have designed this new Multi-Valve® for the exclusive use of Master Tank & Welding. It cuts the time of each delivery stop and increases the number of calls each truck can make in a day. All this adds up to greater PROFITS. Another improvement has been to add a check lock to the bottom of the tank for liquid withdrawal.

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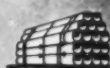
FILLING STATIONS



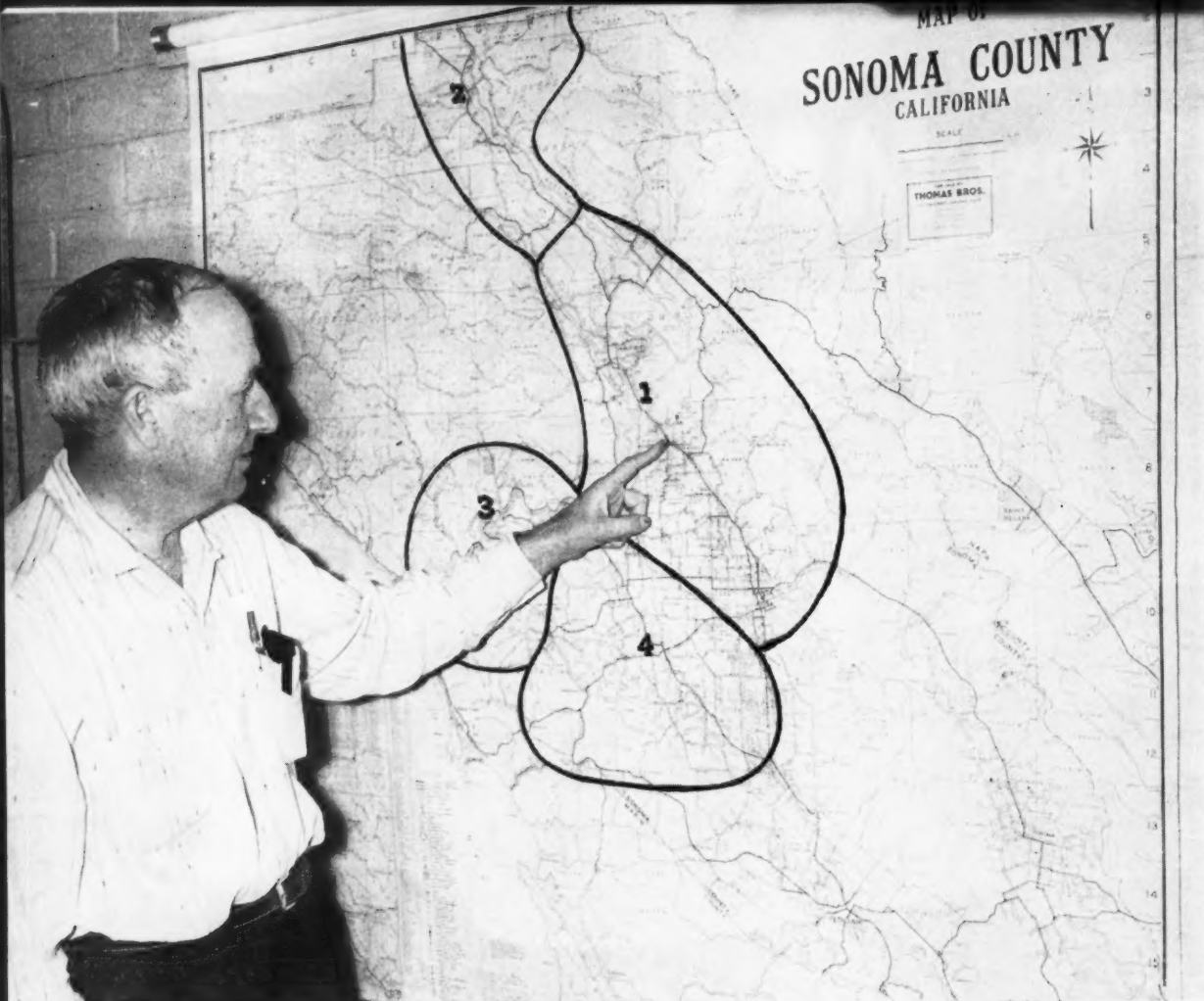
FARM CARTS



REFINERY



LINE PIPE



Using a map of Sonoma County, Calif., N. E. Waltenspiel, president of Windsor Fuel Co., Windsor, Calif., points out the location of his firm's headquarters at Windsor (1). Three more of the company's five branches are shown, Cloverdale, (2), Guerneville (3),

and Sebastopol (4) with the encircled areas denoting the territories they serve. Not on the map is the Anchor Bay district. Sonoma County is on the Pacific Coast, one county north of San Francisco.

Centralized management works well for decentralized operations

AN unusual mixture of centralized management and decentralized operations has made Windsor Fuel Co., Windsor, Calif., an unique organization among dealers; also a highly successful one.

Windsor is actually only one of four inter-related corporations headed by the Waltenspiel brothers, N.E., (president) and C.A. However, it is the main operating com-

pany and the headquarters company, so to speak, for five separate plants—Guerneville (a resort community), Cloverdale, Sebastopol, Anchor Bay, and Windsor.

What makes the organization unusual are:

- Centralized management of the five plants.
- Decentralized storage and delivery set-up.

- Centralized selling by "sales engineers."
- Decentralized routing and scheduling.

Actually, the area served by Windsor Fuel is fairly compact, being about 20 miles wide and 35 miles long. Complete centraliza-

FUEL DELIVERY

Again *Martin* Leads
with *High Fidelity Heat*



To completeness of line and Continental Console Styling, Martin now adds a third dimension for volume sales — High-Fidelity Heat. High-Fidelity Heat means more economical, more effective heat — heat that blankets a given area with welcomed warmth. It is the result of 55 years of Martin engineering and experimentation in the field of gas combustion. It gives you a sales plus that will move more Martin Gas Heaters now...and bring back more customers in the months to come.

For more details on Martin Gas Heaters and High-Fidelity Heat, ask your Martin distributor or write direct.



STAMPING & STOVE COMPANY
HUNTSVILLE, ALABAMA



Centralized management . . . Routine operations are handled locally without control from headquarters. Sales supervision is non-routine

tion into one or two facilities would be feasible. Storage capacity, an important capital cost, would be reduced. Personnel might be reduced, too. However, Ed Waltenspiel believes the setup he has makes for the most efficiency and profit. Although it grew piecemeal—and therefore some features of it exist only for historical reasons—if he could start over again from scratch, he says he would still come up with the same type of organization he has today.

For example, he didn't plan originally on having centralized management of decentralized plants. When he decided to expand from his original Windsor plant to Guerneville in 1946, he set up local management there. In 1949, the Cloverdale plant was established, and it, too, had local management—as did Sebastopol (1953) and Anchor Bay (1954).

Eventually Waltenspiel became disenchanted with decentralized control. Local managers, he found, began putting business dealings on too personal a relationship. Company policy on credit, for example, or on servicing tank loans was all too frequently by-passed. The local manager was inclined to make exceptions for friends.

When one manager left and a new one came in, there would be a complete upheaval. If he began toeing the line on company policy, old friends of the departed manager would naturally take offense. The situation was parallel to that of the salesman who takes his accounts with him wherever he goes.

So Waltenspiel abandoned the local manager policy in 1956, but didn't dismantle the plants or centralize delivery scheduling. He felt—and experience has proved him right, he says—that the plants were close enough to the main office to be supervised from there.

What it boils down to is that routine operations are handled locally without control from headquarters. In the Windsor Fuel scheme, the only routine function is fuel scheduling and delivery.

Servicing is a semi-routine operation. A serviceman is located at each property, but he is closely supervised from headquarters by the servicing manager.

Sales and installation are non-routine, so these are handled by a highly trained crew of men who report directly to the main office and the combined sales-service manager, Phil Greuner.

Let's look first at the routine, localized setups:

First, Cloverdale. Here the Waltenspiels have 40,000 gal. of storage, about 2/3rds of which is devoted to supplying a piped city system. The remaining 1/3rd is delivered by a single 900-gal. truck which, during peak months, pumps as much as 30,000 gal. At the summer low, deliveries drop off to about 12,000 gal. per month. This one truck serves a 10-mile area.

The rather poor winter-to-summer ratio is more than offset by a local plywood plant, which uses 70,000 gal. per month in the summer as against 40,000 gal. in the winter. Gas to supply this load is stored on the premises in a 30,000-gal. tank leased from Windsor.

At Sebastopol, storage totals 10,000 gal. This, too, is delivered with a single 900-gal. truck over about a 12-mile area. Winter peaks hit 25,000 gal.; summer lows, 15,000 gal. per month.

Anchor Bay is the most remote of the five districts. Here the territory stretches out about 20 miles. Storage totals 10,000 gal. Again, a single 900-gal. truck is used to deliver a steady, year-around load of 18,000 gal. Anchor Bay has winter peaks, but these are offset nearly 100 per cent by summer loads.

At home base, Windsor, storage totals 40,000 gal. One 900-gal. truck delivers a winter peak of 35,000 gal. and a July low of 15,000 gal. over a 12-mile area. Here the summer slump is shortened by a prune dehydration load, which brings August and September deliveries up even with the top winter month.

At Guerneville in the Russian River resort area, the ratio is

slightly inverted. The peak comes in the summer, when the top month hits 40,000 gal. In the winter, there is a small drop to about 35,000. Here two 900-gal. trucks are used. Local storage totals 20,000 gal., slightly more than one-third of which is required to supply a piped town system.

By way of recap, then, here is what the combined Windsor companies have in the way of storage, delivery capacity, and load, not including the plywood plant or the two city systems:

Storage: Cloverdale, approximately 13,000 gal. storage for truck delivery; Guerneville, approximately 13,000 gal.; Sebastopol, 10,000 gal.; Anchor Bay, 10,000 gal.; and Windsor, 40,000 gal. Total approximately 86,000 gal. (These plants are supplied by an 8265-gal. tanker owned by Windsor. It makes daily trips to and from refineries in the San Francisco area, some 65 miles south of the main office.)

Delivery capacity: six 900-gal. trucks. Total, 5400 gal.

Loads: Cloverdale, 30,000 peak, in winter, 12,000 summer; Guerneville, 35,000 in winter, 40,000 in summer; Sebastopol, 25,000 in winter, 15,000 in summer; Anchor Bay, 18,000 steady; Windsor, 35,000 in winter, 15,000 in summer. Total winter peaks, 143,000. Total summer lows, 100,000. Adding in the piped systems, the plywood plant, and the prune dehydration load, the aggregate winter-summer ratio is approximately 5 to 4.

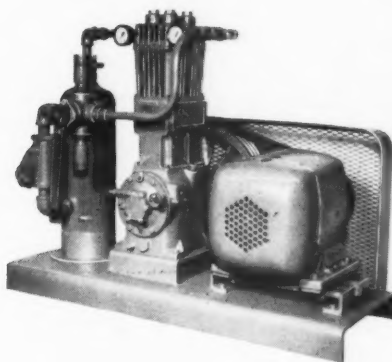
What would be the alternative if Waltenspiel decided to centralize storage and deliveries?

Storage could probably be cut to 60,000 gal., all located at Windsor. But the 900-gal. trucks would no longer suffice. While the same number of trucks would be needed, capacities would have to be increased to about 2000 gal. each. This added cost would probably more than offset the savings in storage capacity.

"Besides," says Waltenspiel, "storage tanks can be written off in 20 years, trucks in 5. Depreciation is much higher on truck ca-

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THERE'S A CORKEN
DISTRIBUTOR NEAR YOU

Never before has there been anything like this Corken "dry cylinder" compressor. It *can't* contaminate your product with crankcase oil. Crankcase and compressor-cylinder are separate. And the almost frictionless long wearing carbon piston rings hug the cylinder walls with such precision that they actually create more compression than before.

Protected against liquid two ways: By the famous Corken liquid trap, and by the special relieving features built into the cylinders and the suction valves.

Practically maintenance-free; just change the crankcase oil twice a year.

Available as a stationary unit for bulk plant use, or as a portable unit for truck or transport mounting, or in several other arrangements.

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OKLAHOMA CITY, OKLA. U.S.A.

capacity than on tanks. Per-mile operation of trucks is much less with the smaller sizes."

By hauling from localized storage, the drivers can get in at least an extra hour's work each day, Waltenspiel figures. This more than offsets the frequent refills that are required, he says.

Routing is done on a simplified but, according to Waltenspiel, highly efficient system which has virtually eliminated outages. Each driver's territory is split into five sections, one for each working day in the week. The driver carries with him a chart on each customer showing that customer's usage history. Every time he makes a delivery, he makes an on-the-spot deci-

Back at the office at the end of the day, the driver turns in the charts to the office, where a clerk notes the projected delivery dates and enters them on an advance routing schedule. She keeps posting these advance schedules daily, so that by the time the delivery date arrives, the driver has a complete schedule from which to work.

Perhaps Waltenspiel could put these customers on bottles and let them call in for fuel. Instead, he has worked out a system whereby they can have the advantages of a bulk rate and Windsor can still make a good profit.

Windsor Fuel doesn't believe in building a bottled gas service. As an alternative, it has designed a bottle-filling "package" which it sells or leases to franchised service

The only bottle filling equipment the company has itself is located at the Windsor plant.

The Waltenspiels look upon sales and installation work as jobs for specialists. Every new job is sold by a full-time salesman, of which there are three working the entire service area—one for the Windsor-Cloverdale districts, one for the Sebastopol and Guerneville districts, and one for Anchor Bay. All report directly to Sales-Service Manager Greuner, and all sales are processed through his office.

The idea is to upgrade sales and installations. The Waltenspiels hire salesmen for the selling job, not LPG men. They are carefully trained in the business by Greuner, but they are still, first and foremost, salesmen. They sell quality. And they've been very successful in combating electricity in the area, says Ed Waltenspiel.

The sales organization and its methods are a separate story in themselves. Suffice it to say that they are consistent in their concepts with the Windsor plan of combining centralization and decentralization into a highly workable pattern of operation. ■





"The LINDE Finance Plan helps us grow"

Says John Long, President, Delaware Valley Propane Co., Merchantville, N. J.

"In this rapidly expanding business, our growth is limited only by the number of cylinders we own. So we are very careful in selecting our supplier, since cylinders represent a major investment. LINDE cylinders meet all our standards of performance. And as the cost is extremely low—only 6% interest on the unpaid balance—the LINDE Finance Plan helps us grow."

A look at any LINDE cylinder will prove his point. It's built for long, hard service. Notice the footring that's designed, constructed, and coated to prevent rust. One seam—not three—gives these cylinders light weight and high strength. And every one is tested to twice the normal service pressure.

Get the facts on LINDE's Finance Plan. It only costs about 25¢ per cylinder per month when you buy on the LINDE Finance Plan. Write Linde Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Linde Company, Division of Union Carbide Canada Limited.

Linde



"Linde",
and "Union Carbide"
are registered trade marks
of Union Carbide Corporation.



management portfolio

Lower your income tax bill by using these entertainment deductions

How much of your business entertainment tab is deductible when you entertain at a restaurant or bar? At social clubs? On company boats? At home? At branch offices in resort areas? How about gifts, including those to employees?

Continuing his discussion of business entertainment deductions in this second of a three-article series, tax expert E. H. Mitchell answers these questions. A retired tax attorney, Mitchell organized and for 18 years was in charge of the Civil Tax Unit of the Southern California U. S. Attorney's office.

Entertainment expenditures are allowable in whole or in part in the various situations we'll discuss here. Other types can and do exist.

Dining and treating customers and suppliers, present and prospective, outside the home are the most common types of business entertainment. Hence this deductible expense attracts the least suspicion, provided you stick religiously to the rules of the game.

An important rule is that a portion of the dining cost is personal. Only that part which is "in excess of the amount you would normally spend on yourself" is deductible. Let's say you take one customer to lunch for a provable business purpose and pay the check of \$10. If you can prove that you normally

pay about \$2 for your lunch, you would be entitled to deduct \$8 as entertainment expense. The same rule usually applies to lunches and dinners at social clubs, and to treating customers at bars. Amounts must be reasonable. Without supporting proof, omit club dues.

Boats acquired and used solely or partially for business, including entertainment, present a more difficult problem. The government presumes that all boat expenses are personal, so clear and detailed evidence of the amount and of the business use is a must. Boating entertainment expenses and even the cost of maintenance and depreciation have been allowed in part. Last June, the U. S. District Court at Los Angeles allowed a paint firm to deduct 75 per cent of the cost of operating its boat and 75 per cent of the entertainment expense although the taxpayer admitted that on "certain occasions" the boat was used "for personal pleasure." Percentage-wise other boat owners have not fared so well.

In claiming costs of home entertaining and the expense of business branch entertaining in resort areas, you encounter a hornet's nest. Here, the Revenue Service really gets tough. The first is presumably a social gathering and the second is too easily used for personal vacations. Abuses are tempting. Convincing written records are essential.

Reasonable amounts spent in entertaining employees to promote goodwill and increase their efficiency are generally deductible. Acceptable are Christmas parties, dances, annual picnics, etc.

Social club dues also present difficulties. If membership is maintained for the sole purpose of entertaining customers or making business contacts, the dues might be allowable. But an exclusively business use is rare. Business advantages must be apparent; and substantial evidence is required to prove the manner and extent to which the membership is so used. Where a mixture of two purposes exist, the business portion alone is deductible. In recent test cases, a tax court allowed 67 per cent of club dues as a business deduction and a circuit court allowed 75 per cent in a similar case.

Business gifts and entertainment are first cousins. Gifts of nominal value are deductible if made by you with intent to promote and maintain goodwill. But it must not violate a clear-cut public policy, such as gifts to government purchasing agents or their families. You can make an occasional gift of liquor and deduct the expense if its sale or transportation is not prohibited. Other common business gifts are: theatre and sports event tickets, holiday foods, clothing, etc.

The nominal cost of gifts by employers to employees is also expressly deductible under a 1959 ruling, if furnished "merely as a means of promoting (their) . . . health, goodwill, contentment, or efficiency."

To be continued

**COUNSEL
AT YOUR
ELBOW**

SEALED SAFTI-VENT, 1960 OPERATION ORBIT

Following 1959's spectacular Operation Snowball, now we're adding two new lines that double sales potentials!

FOR 1960 — NEW MARKET NO. 2

Now, SAFTI-VENT introduces a new window unit that may be installed and removed just like an air conditioning unit. This opens the vast new market of renters as SAFTI-VENT prospects.

PACKAGE FOR PROFIT

By adding models for new construction and by opening the renter market, SAFTI-VENT is conservatively doubling the sales potential of its 1960 line.

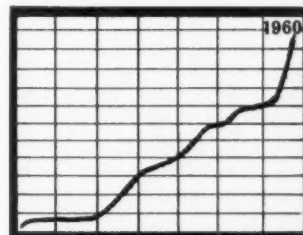
SAFTI-VENT sales policy has always been to sell a "package for profit", — not just a unit. This sales policy will continue. It will be expanded to cover the 1960 double-long line. SAFTI-VENT will aggressively continue and expand its consumer advertising program that develops hot leads for dealers. You and your organization will be given complete and capable cooperation in the use of sales methods proved effective and profitable. SAFTI-VENT dealers don't buy-and-sit; they buy-and-sell — sell SAFTI-VENT at a handsome profit!

The phenomenal nine-year sales growth of sealed SAFTI-VENT has been built on non-recessed cabinet models. Major sales have been made to the 18 billion dollar market of motel and apartment owners and homeowners who have remodeled or sought supplemental heat. SAFTI-VENT sales to these markets will continue to grow in 1960 as they have in each of the past 9 years. Sealed heat — SAFTI-VENT heat — is fast being demanded.

FOR 1960 — NEW MARKET NO. 1

SAFTI-VENT now adds a brand new line of sealed, recessed wall heaters. This opens the new home construction market by competitive pricing and superior product performance advantages. Indications point to 1,200,000 starts for 1960. Home builders and buyers are sold on sealed heat for new homes. Now it is available from SAFTI-VENT dealers.

With an aggressive eye to the brilliant present and future profit potentials for expanding SAFTI-VENT, we seek new sales outlets in certain areas not now thoroughly covered. Restricted franchise will be offered in such areas.



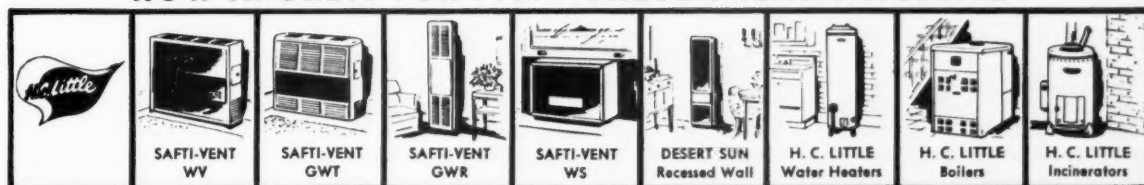
May we suggest that you talk over the SAFTI-VENT franchise with your SAFTI-VENT distributor. Or write us, if you prefer.

H. C. LITTLE BURNER COMPANY, INC.
SAN RAFAEL, CALIFORNIA



LEADER IN SEALED HEATING
GOES DOUBLE IN 1960!

NOW IN ORBIT FOR 1960—THESE GREAT SATELLITES



Now is the time to begin thinking about your summer househeating sales campaign

February is an ideal time to begin pre-planning for your summer househeating sales campaign. With all heating devices going full blast, with gas sales at their annual peak, and with heating equipment sales at low ebb, you should be able to start laying your plans with many particulars very fresh in mind.

Last month, the Management Portfolio gave one LPG dealer's detailed report on how his firm compiled an outstanding heating equipment sales record. As a sequel, the Portfolio this month presents six dealers who give specific answers to specific househeating sales questions.

Each of these men has done an excellent job of selling househeating: John R. Bise Jr., Triopane Gas Inc., Nashville, Tenn.; D. W. Bollinger, Don Bollinger LPG Inc., Talihina, Okla.; Robert D. Powell, Midwest Skelgas Co., Lusk, Wyo.; W. B. Stokes, Airlene Gas Co. of Fulton Inc., Fulton, Ky.; D. B. Thaxton, S. & R. Gas Co. Inc., Natchitoches, La.; Edwin L. Whatley, Spalding Gas Co., Griffin, Ga.

Have you used free gas, giveaways, or drawings to stimulate sales?

THE DEALER SPEAKS

Bise—For several years, we have tried to stimulate off-season installation of home-heating by giving kitchen-ware, silver service, camping or picnic equipment, or something similar as a premium. Also, for early installations we offer 100, 200, 300, or even 400 gal. of free gas, depending on the lateness of the season and the size of the job.

Thaxton—We give a set of aluminum, a table, or some other inexpensive gift with any major appliance. We have never given a discount or free gas. Competition

is too keen and may be misunderstood. We have two prices, commercial for carburetion only, and domestic for cooking and heating loads.

Whatley—We don't make a habit of giveaways or drawings. We do not give gas free as we are very interested in keeping the gas price stable.

Do you make free heating surveys to sell heating jobs?

Bise—We have always offered free heating surveys and so advertise by radio or newspaper. Results have not been especially outstanding.

Powell—We make free heat loss calculations and heating estimates for prospective customers. This, I feel, may be the most important key to our sales. In this, we stress—as much as anything—the result of proper insulation and use of better building materials. We sometimes antagonize a contractor, but generally speaking, a customer will go along with us.

Stokes—Ranking third in importance (behind 24-hr free service and tank leasing service) in selling L. P. gas for home heating is our free heating survey based on ASHAE and NWAHAA calculation data. By using this type of survey, we can and do sell a warranted performance job.

Thaxton—We have never gone out of the office to make heating surveys. We will, however, spend considerable time with the customer in our office, giving comparisons with similar users. This gives your potential customer an idea of the cost.

Whatley—We make free heating surveys to prospective customers, but do not offer them on a door-to-door basis.

Do you ever use special trade-in offers?

Bollinger—We allow very liberal trade-ins on all appliances and have good luck in reselling those of any value.

Stokes—We accept trade-ins if necessary to complete the sale. However, we do not accept coal or oil central heating equipment as there is no market in this area for it.

Thaxton—We have always made a practice of giving trade-ins on major purchases, keeping within a salesman's commission, or 10 per cent.

Whatley—We take trade-ins at fair prices, but never at special trade-in prices.

What do you do in the way of advertising?

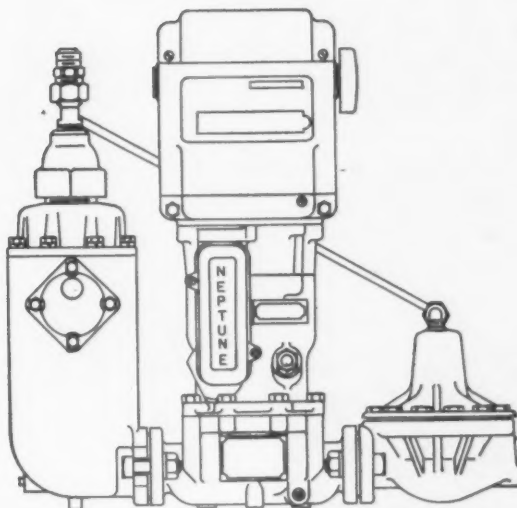
Bise—We have been using school book covers and Simplified Farm Record Book advertising for the past few years. We have some gas-unity highway signs and 11 Philgas highway signs. We advertise in the county fair papers and in several small town weeklies.

Powell—Our advertising has been most intensive on Triad Skelgas hot water heating systems. We have had wonderful acceptance of this type of unit and found it to be a profitable item. Its average retail cost is approximately 20 to 25 per cent above the normal forced air installation.

Stokes—We have not utilized an elaborate advertising program. In several instances, we used Warren Petroleum Co. sponsored contests to gain leads. We take advantage of co-op advertising where available. Our best advertising is our satisfied customer. If a person is proud of something he owns, he

THE FACTS ABOUT NEPTUNE'S TEMPERATURE COMPENSATOR

FOR PROPANE



Neptune does have a temperature compensator for liquid propane meters.

It is in use in the field on new installations, and on conversions of Neptune LP-Gas Meters already in service.

It's a mighty good unit. So good, in fact, that it has created problems which we feel should be pointed out to our customers and to the industry.

We had planned to announce the temperature compensator in trade magazine advertising after our usual extensive field testing of the product. But the news got around first. LP-Gas men were sold on this unit even before they saw it... and they wanted it for the Neptune meters they had in service. The result is that we are completely swamped with advance orders, and we have only begun to swing into production.

To meet the situation we have done the following:

1. Constantly revised planning as demand increased.
2. Added extra shifts to produce

all the units possible with our present facilities.

3. Taken necessary steps to increase future capacity.

Our scheduling is based on the date each order is received, and the order in which approvals were granted for compensators by various states and their weights and measures departments. Through this policy, all customers' orders are equally and fairly handled.

Neptune has produced and sold many thousands of 1¼ inch and 1½ inch LP-Gas Meters since the end of World War II. This represents a tremendous immediate market potential for compensators, because the new compensator can be added in minutes to any one of them. Perhaps we shouldn't have been surprised by the demand... but we were. So we ask you to bear with us as we tackle the backlog of orders.

In the meantime, remember that you can order standard Neptunes *now* with the assurance that you can convert them later as compensator units become available.



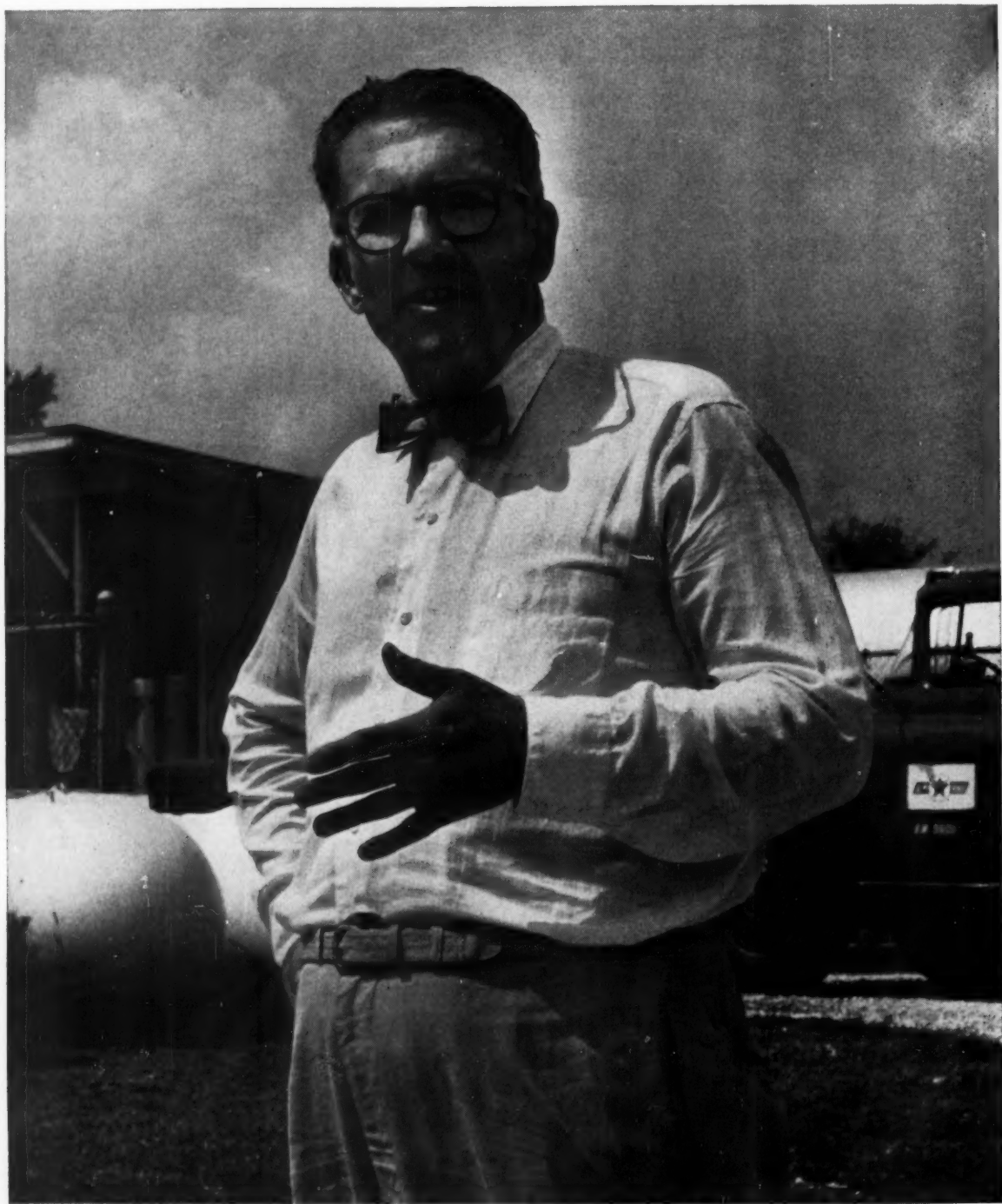
NEPTUNE METER COMPANY

19 West 50th Street • New York 20, N. Y.

LIQUID METERS

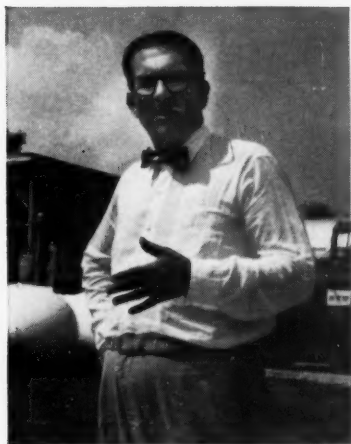
GAS METERS

ELECTRONIC SYSTEMS and COMPONENTS
for MEASUREMENT and CONTROL



GEORGE L. ROSE, ROSE LP-GAS CO., JACKSONVILLE, ILLINOIS, SAYS:

“We’ve been Texaco Distributors for 23 years. In 1955 we added Texaco LP-Gas. Sales have increased every year—25% last year mainly because it’s a fine, moisture-free product, and our customers prefer it over others. Most important, we’re assured of dependable *all-year* supplies. We like to do business with Texaco.” Sell the best . . . sell **TEXACO**



5 reasons why it pays to be a Texaco LP-Gas Distributor

1. A product of highest quality—moisture-free.
2. Dependable and efficient delivery, in a new fleet of tank cars, from 31 strategically located production areas.
3. Immediate acceptance. Texaco LP-Gas is sold under the nationally famous trademark, the Texaco red star with the green "T".
4. One of the largest producers of LP-Gas, Texaco is the only petroleum company to build up successful distribution of its products nation-wide.
5. Profitable and proved sales policies. Texaco does not compete with its independent distributors of LP-Gas.

TEAM YOUR NAME with Texaco and profit. Let us tell you about the opportunities for a sound and profitable business with Texaco LP-Gas. Call or send coupon today: Texaco Inc., LPG Sales Division, P. O. Box 2420, Phil-tower Bldg., Tulsa, Okla., Diamond 3-4101; 3350 Wilshire Blvd., Los Angeles, Cal., DUnkirk 5-0515; Texex, 237 Seventh Ave., West, Calgary, Alberta, Canada, AMherst 6-7131.



I would like complete information about the possibility of becoming a Texaco LP-Gas Distributor

NAME _____

STREET _____

CITY _____

STATE _____

Management Portfolio

likes to tell others about it. We try to make each new customer proud of his L.P. gas installation.

Thaxton—We display at the parish fair each fall, and run spot announcements on radio and a very small amount of newspaper advertising.

Whately—We advertise with local radio stations and local daily newspapers, amounting to about \$1500 yearly.

How do you get prospects?

Bise—The Farm Record Co. has a self-addressed postal card in each book and we get a large number of prospects from the list they furnish us from these mailings. One of our most effective devices is to give 50 to 100 gal. of free gas to any customer who gives us a prospect whom we succeed in selling. Some of our customers get quite a sizeable amount of gas this way.

Bollinger—We watch any new homes that are built or any new families that move into our trade area, and call on most of them personally.

Stokes—Our method of obtaining prospects is generally handled through contact with our present customers. Walk-in trade has been at an ever-decreasing rate during recent years. Today, if you want business, you must go and find it. We talk to our present customers and from them obtain names of their neighbors who have expressed interest in their installation. We have not given any free gas or other premiums to these customers in recent years. In the past, we found that if premiums were offered, invariably two or more customers would claim credit for the sale. Also, our gas delivery and service men bring in leads. Several building contractors in our area furnish leads and, of course, we do have some walk-in business.



Do you offer free service?

Bollinger—We service labor-free all gas-burning appliances for our gas customers. We do more of this than we should, but it seems to pay off.

Stokes—We maintain 24-hour free service to any customer using our gas. The only reason for any charge being made for a service call would be if a new part were required. We would then charge only the cost of the part, with no charge for labor or the trip (or trips). During our working day, two-way radio communication is available to our gas and service trucks. At night or any time the office is closed, we utilize a telephone answering device, which will give the phone number of the serviceman on duty at that time. There is always a man on duty. This type of service is not available from any of our competitors, L. P. gas or otherwise. We use the strong sell on our service policy.

A pair of postscripts provide a further interesting insight into the heating sales policies of these dealers and just might be the clue to a big heating year for you.

Stokes—Always of prime importance is the gas tank itself. We sell and lease gas tanks. We sell a tank on the basic FOB Fulton cost plus cost of installation. The lease tank program is set up on the basis of cost of installation (truck expense, setting expense, and piping expense), plus a one-cent-per-gal. lease charge. The lease program has enjoyed good customer acceptance. We now sell very few tanks.

Thaxton—We believe that the major factor in the success of our business is that a friendly atmosphere prevails at all times in our office where company policies are made. We want our employees—and by all means our customers—to feel that they are the most important part of our business. We give service through team work. This has worked well for our company over the past 15 years.



association news

In 10th year of smooth sailing, gas unity group charts 3-point course

WITH its eye on the fall horizon and its tenth anniversary, the Gas Institute of Greater Miami is steaming along at full speed on a three-point course that should bring it even greater recognition as a model of gas unity. The Institute is hurrying toward its twin destinations of "better public un-

derstanding of the gas industries" and "greater gas consumption" by: 1. close cooperation with government groups, 2. a billboard campaign now in its fourth year, and 3. an elaborate permanent display in the famed du Pont Plaza Center in Miami.

The Institute was founded in

October 1950. LPG and manufactured gas companies were the original members with suppliers joining as associate members. When the pipeline brought natural gas to the area last year, the membership picture changed somewhat, with the manufactured gas utility companies becoming natural gas companies and the pipeline companies joining. Still very much in the picture, however, were the LPG men. Thus, while gas unity remains a seldom-practiced theory or just a dream in most parts of the country, the Gas Institute of Greater Miami shows that it can work and work very well. Work is really the key.

"We have learned that you cannot just pay money into a trade association treasury and expect that to answer all industry problems," says Executive Director James E. Fussell. "Time is often more important than money, and the members of the organization must contribute much time away from the actual conduct of their business to represent the industry in dealings with government agencies."

Best recent example of this close cooperation with government is a new local building code for gas installations. The Miami area is undergoing a radical change with a countywide government unifying many of the different and conflicting regulations of various local municipalities. As the organization representing the gas industries, the Institute was invited to rewrite parts of the code to conform to NFPA Pamphlet 54 and to local conditions. The job went to the Institute's 12-man Technical Standards committee, which includes several LPG-men and is



A real example of gas unity at work is the technical standards committee of the Gas Institute of Greater Miami revising the metropolitan Miami building code. Shown at this session are (clockwise, from left foreground): Robert Brenner, Miami Bottled Gas Inc.; Jim Sapp and Robert Keyes, Peoples Gas System; Chairman B. B. Jordan, Sungas Corp.; the committee stenographer; Institute Executive Director James E. Fussell; Henry Penchansky, Blue Flame Gas Corp.; John Stevens, deputy fire marshal, L. P. Gas Division, Florida Insurance Commissioner's Office; and Al Carey and Lonnie Williams, Public Gas Co. Not Shown are S. W. Langer, City Gas Co.; Joe A. Frink, The Houston Corp.; and Roland Christian, Southeastern Natural Gas Corp.



Why? Because through the years Empire has been the world's largest manufacturer of gas floor furnaces. The Empire gas floor furnace has been proven to be the *best made* by thousands of satisfied dealers and users. Why don't you be among them . . .

WRITE FOR FULL DETAILS TODAY!



Manufacturers of the finest
complete line of Certified
Gas heating appliances

MAIL THIS COUPON TODAY!

EMPIRE STOVE COMPANY
BELLEVILLE, ILLINOIS



QUICK! Send more details
on the Empire Floor Furnace.

NAME

DEALER NAME

ADDRESS CITY

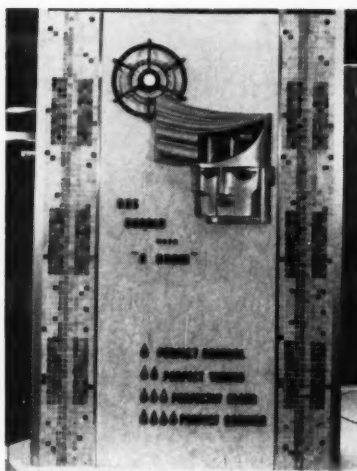
ZONE STATE



chairmanned by an LPG man, B. E. Jordan of Sungas Co. Several days of tedious, detailed work were necessary to hammer out the required changes. The code, as adopted by the new metropolitan government, has been generally followed in much of southeastern Florida.

Since it was formed, the Institute has tried almost every form of promotional and institutional advertising open to an organization with a modest treasury. Of all these, Fussell says the most effective for the money spent has been outdoor advertising. Four years ago, the Institute inaugurated a cooperative billboard advertising program. It now controls some 50 boards at strategic points throughout the Miami area. There are two types of boards. The institutional board uses AGA posters and is paid for by the Institute. The dealer board features a product and is paid for jointly by the dealer and the manufacturer. This latter type has been especially popular with the members.

"For a few cents more than one dollar a day (with the cost shared by the manufacturer), a dealer can have his name and product before the community 24 hours a day," says Fussell. "And 8 of 10 people, according to studies, remember outdoor advertising."



Focal point and theme-setter of the du Pont Plaza Center display is this striking, unique black and brass display on a bleached wood and tile panel.

The newest, most ambitious, and costliest promotional effort ever attempted by the group is its \$60,000 display in du Pont Plaza Center. While the investment is considerable, it seems to be paying off very well, since the situation is "a natural."

Miami has become one of the nation's top convention cities. Some three years ago, the du Pont Plaza Center was built to serve as

Miami headquarters for conventions of the various building trades groups. More than 100 permanent exhibits—worth an estimated \$1.5 million—have been set up in the huge contemporary structure by manufacturers and distributors of building products and equipment.

As a local group, the Institute is primarily interested in the impression its display will make on key local construction people. However, the Center is also open to the public, since the management sponsors tours, meetings and special events to bring in thousands of Miamians. To effectively reach these two distinct types of viewers, the Institute display has to: 1. tell the story of gas and its potentials in terms that would appeal to a builder or architect, and 2. depict this story by methods which would catch the fancy of a visiting high school group. Almost one full year was spent in meticulous planning and building. To make sure that the display would stand out among the impressive array of national manufacturers' exhibits, an architectural firm was hired for the actual design.

The Institute leased the space for three years, but probably will continue to use it thereafter. Therefore, a basic requirement was that the display be permanent with only minor changes necessary to keep it up-to-date. Materials used include tile, wood, and steel. Display techniques utilized are dioramas, recorded sound messages, color photography, oil paintings, and animations.

Of the walk-in type, the display is triangular in floor plan with display panels along both the outer and inner perimeters. Focal point of these panels is one featuring the "Gas Burner with a Brain" theme to stress the modern features of gas. Other panels tell the story of natural gas historically, educationally, and competitively. Separate panels are devoted to the individual uses of gas.

The large LPG panel is primarily instructional. Color transparencies lighted from behind photographically show the key steps in manufacture, production, and distribution of L. P. gas. Other slides depict the many varied uses of LPG.

In all of these panels, product information is minimized. However, in the center of the triangular floor plan is a turn-table display, along with an area where



One panel removed from the theme-setter shown above is the LPG panel, which depicts the LPG story from oil well to consumer. Again, bleached wood and tile are used, along with large colored slides illuminated from behind. The panel also lists the Institute's members and associate members.



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Anchor's nationwide fleet of tank cars gets the LPG to you when you need it! Anchor rolling stock all over the United States has often been the answer to meeting emergency needs and solving

special problems. With more-than-ample facilities, and with an ideal of flexibility to meet your needs, Anchor has built an enviable reputation for service. We offer that service to you. Call now about a contract.

Now Celebrating 20 Years of Service to the LPG Industry . . .

ANCHOR PETROLEUM COMPANY • TULSA





This group attending the Motor Fuel Extension Class of the Somerset (Ky.) Area Vocational School is about to install L. P. gas carburetion on the Oldsmobile motor shown in the center. Kneeling in front of the motor (left to right) are Floyd Stout, Blue Blaze Gas; Miss Frances L. Holliday, executive secretary of the Kentucky LPGA; Ruell Gregory, Suburban Propane Verkamp Corp; Gene Thruston from Monticello, Ky.; and Joe Holloway, Rural Gas. Standing (left to right) are E. R. Foster, instructor for the school; Charles E. Nead, Nead & Holliday; G. Earl Koch, Auto & Aero Supply; G. H. Yandell, chief LPG inspector; H. D. Noe, director of the Vocational School; Mitchel Bowlin, from Monticello; Lawrence Mize, Grissom-Rakestraw Lumber Co.; Alben Tackett, Suburban Verkamp; William Sewell, Rural Gas; Stanley Stringer, Suburban Verkamp; George Schmidt, Diamond National Co.; Jack Massey, Ford Motor Co.; and Howard Mounce and Willard Sadler, Diamond National Co.

visitors may be seated for conversation or conferences. Individual Institute members provide appliances and other display material for the turntable, operating on a rotating basis. In addition, the Institute arranged for space adjacent to the triangle for display of gas industries products by interested manufacturers.

This, then, is the story of the Gas Institute of Greater Miami, a model gas unity group. Only one bit of information remains to be told. Who heads this dynamic organization of go-getter LPG firms, large utilities, and multi-million-dollar pipeline companies? An LPG man—Joseph Garfield of Miami Bottled Gas Inc.!

Alabama studying collection, credit reporting system

A proposed collection and credit reporting service, especially designed for the Alabama LPGA, is now under study.

The service would be entirely controlled and administered by the Association. The collection activ-

ity would involve a series of letters on specially designed stationery mailed by the executive office to delinquent accounts reported by member-dealers. Each dealer participating in the program would retain complete control over action to be taken on accounts reported by him to the executive office.

The credit reporting service, to be financed by a small percentage of monies collected through the service, would provide circularized bulletins on a district basis that would include the reported delinquent accounts in a specific area. The credit information would also be available to member-dealers by direct request.

Certain legal aspects of the proposed service involving the Association's tax-exempt status centers on the point of whether a collection and credit reporting service administered by the Association would be only "incidental to and clearly subordinate to the main purpose" of the Association.

A private firm specializing in commercial collections and credit reporting has expressed an interest in developing a program cus-

tom-made for the Association's needs. The Special Services Committee of the Association will confer with officials of this firm in evaluating the proposed service and will make a complete report to the Alabama board of directors not later than May 15.

Ohio LPGA plans its 1960 convention

The Sheraton-Gibson Hotel ballroom in Cincinnati will again be the scene for the Ohio LPGA when it holds its annual convention and trade show, March 20-22.

The convention committee, chairmanned by Robert L. Ayer, Ayer Gas Service & Appliances, Batavia, is planning a booth to "sell safety," and to emphasize the cooperation of the safety committee with the state fire marshal's office.

The convention is being planned to include the tri-state area of Ohio, Kentucky, and Indiana again this year.

Thirty-one booths are available to exhibitors.

Natural and LPG companies contribute to Council's success

Since May 12, 1959, when the Virginia Gas Council was organized, 19 natural and L. P. gas companies have joined it and have contributed in excess of \$3000 to be used for promoting gas usage in Virginia.

The purpose of the group is to "promote and develop the sale and use of natural gas and L. P. gas throughout the state." This is accomplished through the arrangement of displays, exhibitions and other promotional media, and the development of closer work relationships between the members for the purpose of increasing the effectiveness and unification of gas activities.

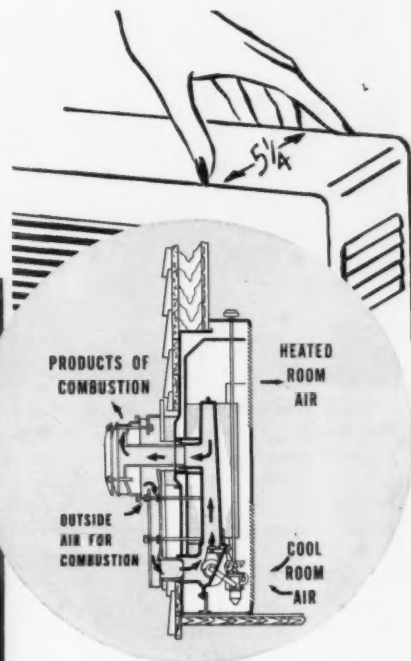
In September the group sponsored a display at the annual Virginia Restaurant Association Convention in Richmond, and in October a large booth at the annual joint meeting of the Virginia Society of Practicing Engineers and the Virginia Chapter of the American Institute of Architects.

ASSOCIATION NOTES

Over 350 teachers, home agents and extension workers registered at the Carolinas LPG Council's

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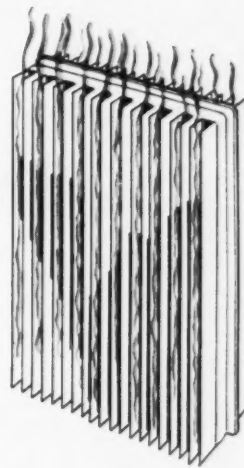
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4. Three kinds of control—manual, wall thermostat, Unitrol.
5. Modern built-in heater—recessed between the studs (not hung on the wall). Handsomely finished in two-tone enamel.
6. Heat exchanger is ceramic coated inside and outside for protection against corrosive effects of condensation.
7. Easily installed through a square hole.
8. Easy to service—loosening two screws permits removal of entire burner assembly.
9. Quiet—fins on heat exchanger prevent expansion noises.
10. Nationally advertised in shelter group magazines.
11. Complete assortment of consumer literature, window and floor displays, local advertising material.



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Saf-Aire heating surface is greatly increased by close-set fins, running full length of exchanger. Saf-Aire's vertical heat exchanger moves more air across hot surfaces—heats faster—heats better.

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Dept. AT-20, Lebanon, Indiana



These men are recently elected officers and directors of the Mississippi L. P. Gas Dealers Association. Seated (left to right) are James Magee, Tylertown, Henry Graeber, Senatobia, vice presidents; O. W. Pittman, Corinth, president; and Robert Weir Jr., Newton, vice president. Standing are directors Tillman Ewing, Tupelo; W. W. Gresham Jr., Indianola; W. A. Mills, Laurel; Walter Barbee, Grenada; C. P. House Jr., Cleveland; and T. G. McRae, Meridian.

desk at the annual meeting of the North Carolina Home Economics Association in Rocky Mount, N. C., November 12-14. Mrs. Francis W. Horton, Millbrook High School, Wake County Schools, won a deluxe kitchen raffled off by the Council. This will be a new experience for the

teacher and the students of the school because there had been no gas in that school's home economics room previously.

The Kentucky LPGA's annual "search" for Miss Future Home Economist will see some changes in 1960. The Association has an-

nounced that "each entrant must submit an original paper written on any phase of the LPG industry, or on any of the uses of L. P. gas. Each entrant shall be prepared to give a demonstration or talk which shall include the actual use of L. P. gas in a 'live' demonstration. The college whose entrant wins will receive a gift of any major LPG household appliance which they may select and on which the entrant has demonstrated. The equivalent of a month's experience as a paid home economist with member firms of the Kentucky LPGA, plus \$100 and the tiara with which she is crowned, goes to the lucky girl."

Start at the beginning! When you want buildings to go on LPG, talk to the man who designs them! That was the reasoning behind the latest venture of the Carolinas LP-Gas Council. The North-Carolina-based group supplied a dance band for a social event of the North Carolina chapter of the American Institute of Architects. In turn, Council members were invited to attend any session of the architects' convention and discuss LPG with them at any time.

Humphrey

CIRCULATORS WITH "TOPTROL"
GIVES MORE COMFORT
WITH 3-WAY HEATING!



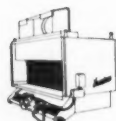
Humphrey presents two new 1960 circulators: the Director and the Radiantfire, both featuring the exclusive "Toptrol"—the top-mounted regulator that lets you adjust heat from table height. Humphrey circulators give you clean, warm air from the top, front and bottom . . . for perfect, even circulation of heat.



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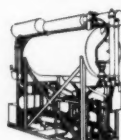
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New Products and Free Literature

Leak detector spots tiniest pinholes and other leakage

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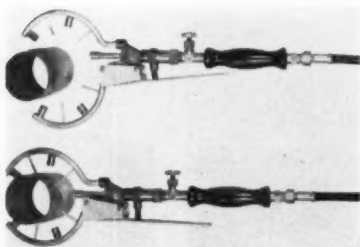
The tiniest pinholes, or other leakage areas around joints in pressure lines or tanks can be safely located instantly with Detect-A-Leak. It is a non-inflammable, non-corrosive liquid (not a soap), packaged in 8 oz containers with an applicator brush attached to the cap. When applied wherever leakage is possible it forms large bubbles which remain intact until the danger spot can be marked for repair. When used on gas lines there is no need to reduce the pressure. Flamort Chemical Co.



L. P. gas carburetor provides 30 per cent more capacity

Circle 2 on Readers' Service Card

A completely new straight L. P. gas carburetor is said to provide 30 per cent more capacity than conventional L. P. gas carburetors of comparable size. The additional air capacity results from two, 19/16 in. diameter throttle bores, and the use of the Century 3C fuel metering principle. Century Gas Equipment.



Circular torch makes sweating copper pipe easy and safe

Circle 3 on Readers' Service Card

This circular torch provides an easy, safe method of sweating copper pipe. Its lever action, made possible through use of a joint, allows user to surround the pipe with even, penetrating heat in an instant. All it takes to operate is a press of the thumb on lever to open torch. Three sizes are available. Mutual Liquid Gas & Equipment Co. Inc.

All Reznor unit heaters now have Flexitemp controls

Circle 4 on Readers' Service Card

Expansion of its Flexitemp control system to include its entire line of suspended unit heaters in 11 capacities from 25,000 to 300,000 Btu has been announced by Reznor. Because the sensitive control system virtually eliminates hot air blasts, it makes installation of higher capacity gas-fired unit heaters more suitable than ever before in offices, retail stores, restaurants, and other commercial establishments. The controls are now available with propeller-fan-type unit heaters, and with exposed blower-type and cabinet-enclosed blower-type heaters. Reznor Manufacturing Co.

Signaling decoder allows selective calling

Circle 5 on Readers' Service Card

A transistorized "Quik Call" selective signaling decoder enables a radio dispatcher to alert and talk to individual mobile units in his network without bothering other vehicle operators. If the operator is working away from his vehicle, the decoder can be connected to the truck horn or a light to signal the driver that he is wanted on the radio. The decoder was designed for use with Motorola mobile two-way radios. Motorola Inc., Communications & Industrial Electronics Division.



Outdoor infra-red heater prevents snow accumulation

Circle 6 on Readers' Service Card

Snow accumulation on sidewalks can simply and inexpensively be prevented with a new gas infra-red heater, rated at 48,000 Btu. Infra-red rays, like light rays, can be concentrated on specific areas without heating the surrounding air. Each heater weighs approximately 68 lb. Perfection Division, Hupp Corp.



License holder assures dry, dust-free records

Circle 7 on Readers' Service Card

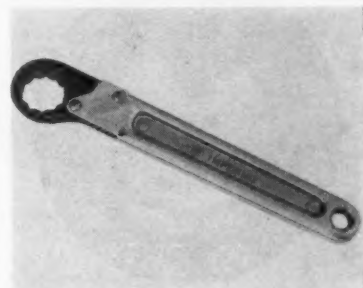
For installation on vehicles—dry, dust-free records and certificates are assured when sealed in the Model PS-1 license holder. The manufacturer states that its patented "O" ring sealed cover completely excludes all exterior elements. The "O" ring sealed transparent cover simply pries off and snaps back in for quick inspection of papers. Betts Machine Co.



Multi-operational gas lamp is made of cast aluminum

Circle 9 on Readers' Service Card

A multi-operational gas lamp to beautify public structures, prominent buildings, and especially gas companies has been introduced. The entire post and five-lamp cluster is made of cast aluminum and is available in all colors including silver and gold. The overall height is about 9 ft and overall width 41 in. Modern Home Products.



Ratchet wrench is ideal for work in close quarters

Circle 11 on Readers' Service Card

A light-weight ratchet wrench which speeds fitting assembly and is ideal for work in close quarters is now available. Designated the Kwik-Tite Ratchet Wrench, it is ideal for making up tube fittings, high pressure hose fittings, hydraulic hose fittings, pipe fittings and other applications. Also may be used for fastening machine nuts and hex fasteners. Jaws are forged chrome-vanadium steel which is especially hardened for durability.



Quiet operation, longer life features of new refrigerator

Circle 8 on Readers' Service Card

Norge announces a new refrigerator available in four models for natural, manufactured and bottle gas operation. Silent operation and longer life are the chief consumer benefits of the new model, according to company officials. There are no moving parts to wear and it operates on the gas absorption refrigerating system principle. The basic refrigerating system is being produced for Norge by Electrolux in Sweden. Norge Division, Borg-Warner Corp.



End switch sometimes eliminates need for auxiliary relay

Circle 10 on Readers' Service Card

A line voltage end switch with snap-on terminals, which in many cases eliminates the need for an auxiliary relay to operate the circulator and burner is featured on a new hydronic zone valve. The valve has been especially designed for use with residential heating and cooling systems and features ease of installation and long life. It also features a sealed-in synchronous low voltage motor. Minneapolis-Honeywell.



Tilt-top cooking grilles reduce flame-ups

Circle 12 on Readers' Service Card

A tilt-top cooking grille which reduces flame-ups from dripping grease is featured on the 1960 line of Majestic Char-Grill built-in barbecue grilles. The gas burner delivers an input of 30,000 Btu's and is controlled by a single knob with "hi," "lo," and "pilot" positions and all in-between stages of flame intensity. Overall dimensions are: 31 in. wide, 14½ in. high and 22½ in. deep. To match the new Deeptone grey color of the grilles, the company has also added a new line of vent-hoods. Majestic Co. Inc.



New control keeps foods warm without continued cooking

Circle 13 on Readers' Service Card

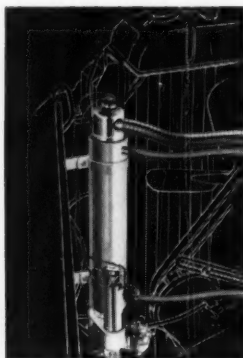
A temperature control system for gas range ovens enables foods to be held at warming temperatures without continued cooking. To the homemaker, the control system means she will be able to cook a roast, for example, to precisely the desired doneness, reset the oven temperature dial, and keep the meat at the exact serving temperature without its continuing to cook and—for instance—going from medium rare to well done. Robertshaw-Fulton Controls Co.



Griddle top unit is 3 in. deep; requires no front cutout

Circle 14 on Readers' Service Card

Modern Maid is now available in a "super thin" drop-in griddle top unit. The complete unit is only 3 in. deep and requires no front cutout either for controls or for the vent. The complete griddle unit is only 36 in. wide and yet contains a griddle of 143 sq. in. It has a built-in thermometer and a griddle cover. The built-in oven features a recessed control panel with no exposed vent. A giant 18-in. wide oven is standard on all models. Tennessee Stove Works.



Engine heater keeps operating temperature of coolant

Circle 15 on Readers' Service Card

A new engine heater automatically maintains operating temperature of the coolant in propane-fueled engines even when the engines are not running. It is also said to eliminate low temperature starting problems and cold engine wear. Automotive engineers have stated that the first few minutes of driving with a cold engine produce more wear than a week of continuous driving at high speed with the engine at operating temperature. Thermo-Temp Industries Inc.



Hydraulic maintenance sets adaptable to all machines

Circle 16 on Readers' Service Card

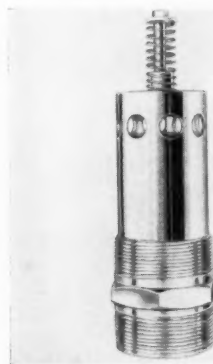
Three new industrial hydraulic maintenance sets are available from Owatonna. With these sets, the removing and installing of gears, bearings, bearing cups, wheels, sheaves, shafts, couplings, sprockets, pulleys, etc., can be accomplished without damage or distortion to parts. The sets are equally adaptable to all types of machines, from fractional horsepower motors, up through light machine tools, large earth moving and mining equipment. Owatonna Tool Co.



Degree of warmth from heater fan can be regulated

Circle 17 on Readers' Service Card

The exclusive "Temp-air-trol" is now standard equipment on Quaker's thin line console deluxe unvented gas radiant circulator. The control can be set from barely warm to intensely hot and can be changed at any time to regulate the degree of warmth that flows from the fan. Also standard equipment is a moveable louvre panel, placed in front of the heat circulating fan, so that heat flow can be directed to wherever it is desired. Heil-Quaker Corp.



Excess flow check valves for full or half couplings

Circle 18 on Readers' Service Card

A new line of excess flow check valves is for vapor or liquid service in piping systems involving large flows of L. P. gas. Introduced by Fisher, these valves are designed for installation in bulk plants and industrial systems. Types F151 through F158, they have male NPT 3-in. inlet connections and are available for either full or half couplings. The valves are made from steel bar stock, with stainless steel spring and stem. Fisher Governor Co.

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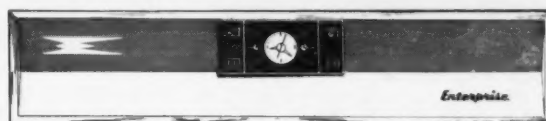
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Built-ins feature Micro Ray burner

Circle 19 on Readers' Service Card

Now, for the first time, Hardwick's MicroRay burner appears in

one of the oven models of its built-in line. This provides the ideal oven arrangement for luxury kitchens. The MicroRay Oven is equipped with a thermostatically-controlled, live-flame rotisserie so that it roasts and barbecues as well as broils and browns. While MicroRay operates, the conventional oven, bakes breads, pies, casseroles and all manner of other foods so that large meals can be prepared simultaneously. The burner operates on a radiant principle, generating three-micron heat waves, cutting normal cooking time in half. Hardwick Stove Co.



Leak detector finds line leaks in five seconds

Circle 20 on Readers' Service Card

Costly leaks in compressed air or gas lines and fittings can be quickly found with Air-Push Leak Detector. To find leaks remove bottle cap, wipe joint with dauber and watch for bubbles. In just five seconds the bubbles will appear if the joint leaks. Available in 4 oz dauber-cap bottle. Also in pint bottles and gallon containers. Sprague Devices Inc.

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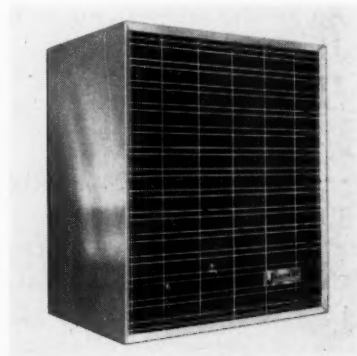
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ELECTRIC PRODUCTS DIVISION, ST. LOUIS 10, MO.

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New unit heater series is sans the conventional grilles

Circle 21 on Readers' Service Card

A restyled line of gas-fired unit heaters, known as the 67 series, have a straight side panel free from the conventional grilles that have long been a characteristic part of unit heater design. The new series features 11 new models with a Btu per hour input range of 30,000 to 250,000. They are neutral Phoenix-beige in color. Automatic controls are factory assembled and wired, and concealed in a rear enclosure that's accessible for servicing. Janitrol Heating & Air Conditioning Div., Surface Combustion Corp.

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Philadelphia, Pa.

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P.O. BOX 8211—30TH STREET STATION
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USE THESE
POSTAGE FREE
POST CARDS

FREE LITERATURE

Cities Service Business Library

Circle 22 on Readers' Service Card

A comprehensive selection of management aids available to dealers and distributors is offered in the 1960 Cities Service Business Library Catalog. Included in the 1960 edition are 112 items. Nearly 50 per cent are new additions. Each item is described and keyed to an enclosed order form. Seventy-five of the aids are offered free. Others can be ordered directly from the publishers. A new section listing business and trade publications of interest to businessmen has been included. Cities Service Co.

Lift truck brochure

Circle 23 on Readers' Service Card

A four-page brochure illustrates a typical Hyster L. P. gas fuel system installation, explaining components and operation. Specific advantages of L. P. gas fuel for lift trucks are outlined. L. P. gas fuel systems are offered as optional equipment on all the company's lift trucks, from 2000 through 40,000-lb capacity. Hyster Co.

500-page valve catalog

Circle 24 on Readers' Service Card

A 500-page valve catalog features a special 24-page Valve Selector and over 100 pages of engineering data. In addition, the complete line of steel, iron, bronze and polyvinyl chloride valves is presented, along with specifications and illustrations on lubricating devices, boiler mountings, cocks and other products. Lunkenheimer Co.

Conversion burner literature

Circle 25 on Readers' Service Card

A catalog sheet describes and illustrates the "Tele-Tube" gas conversion burner. Of particular importance is the burner's adjustable venturi, which telescopes from 6½ to 13½ in. to 95 per cent of all existing furnace and boiler installations. Barber Manufacturing Co.

Winter driving pamphlet

Circle 26 on Readers' Service Card

A 16-page publication, "How to Winter-Wise Your Driving," covers aspects of winter driving ranging from how to avoid skids on icy roads to the things to do to ready your car for sub-zero temperatures. National Safety Council.

2
New

RIGID Tubing Cutters

Give you Grooved Rollers for close flare cut-offs... no waste! Also, Enclosed Feed Mechanism • Spare Cutter Wheel in Handle •



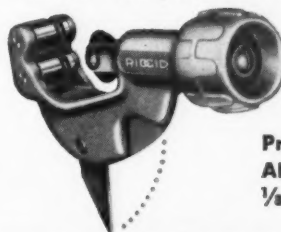
RIGID No. 205 Tubing Cutter

Time-Saving, Slide-to-Size ⅛" to 2⅜" O.D. Capacity

Made of lightweight, high-strength cast aluminum alloy, you'll find these new RIGID Tubing Cutters extra handy. Slight push on handle of large-size-range RIGID No. 205 snugs cutter wheel against tubing... locks it in position until released. Feed screw fully protected and enclosed... always feeds into tube with easy handle turn... can't jam with chips or dirt. Wheel gives

quick, clean cuts of copper, brass, aluminum tubing and thin-wall conduit... no burr. Grooved rollers give easy flare cut-offs without tubing waste. Tubing always turns freely on 2 of 4 Rollers. Rollers smooth tubing ready for soldering. Fold-in reamer always handy. Spare cutter wheel in handle. Wheel for plastic and aluminum pipe available for No. 205 only.

Conform to Fed. Spec. GGG-C-771b Type II—Class I—enclosed feed mechanism



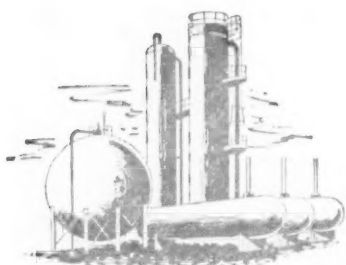
RIGID No. 105 Tubing Cutter

Protected Feed Screw
Always Easy-Turning
⅛" to 1⅞" O.D. Capacity

To save time and tubing, order these new RIGID Tubing Cutters today!
Your Supply House has them!

RIGID

The Ridge Tool Company, Elvira, Ohio, U.S.A.



industry news

The National LP-Gas Council's "Win A Home"

Sweepstakes offered many promotion ideas

AN appraisal of dealer performance in the National LP-Gas Council's "Win A Home" Sweepstakes of last fall shows that those who participated in earnest reaped substantial benefits.

The Council, in analyzing results, pointed to the success stories of the following dealers as examples:

Consumers Gas Co., Minneapolis, Minn., developed a "Hospitality Week" Sweepstakes tie-in. Steve Fligelman, public relations director

at Consumers, reported that general publicity releases on the event were distributed to newspapers serving the 12 Consumers districts which participated in the promotion.

Newspaper and radio advertising copy was forwarded from the Consumers main office to districts for use at the discretion of managers. The advertising copy urged consumers to come see the "Fall Festival of Values" and take a chance

on the \$25,000 home. Coffee and snacks were offered along with free balloons and other inexpensive giveaway items for children. Additional local prizes offered included gas lamps and picnic barbecue sets.

"Increased sales volume resulted and indirect benefits such as sharply increased store traffic and general good will were distinctly observed," Fligelman reported. "The clear increase in store traffic during and after the event was in itself enough to justify the time and money costs. It can be safely stated that all of our managers are eagerly looking forward to future tie-ins with any nationally promoted program, for they feel that we can distinctly benefit from the experience of this campaign."

FALL FESTIVAL OF VALUES

at CONSUMERS GAS this month!

See the amazing new MICRO-RAY Broiler Oven Unit—cooks twice as fast with Infra-Red radiant heat!



FREE!
Flameless Gas Tard Lamp
Give to friends or keep one for yourself as well as replace your kerosene.

FREE!
Flameless Gas Tard Lamp
Give to friends or keep one for yourself as well as replace your kerosene.

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Give to friends or keep one for yourself as well as replace your kerosene.

FREE!
Flameless Gas Tard Lamp
Give to friends or keep one for yourself as well as replace your kerosene.

REGISTER NOW! Closes Sept. 30

WIN THIS \$25,000 LP-GAS HOME by SWIFT

Complete with modern LP-GAS APPLIANCES!

CONSUMERS GAS CO.
500 Washington Phone 3136 Ireland

Districts of Consumers Gas Co., Minneapolis, tied the National Council's Sweepstakes ads into a "Fall Festival of Values" promotion.

Kay Gases Co., Chicago, reported to the Council that it promoted the Sweepstakes by displaying cards and banners on trucks. Many customers and prospects entered the contest after seeing the truck ads.

HEATING

CHICAGO

EXTRA In addition to the \$25,000 home

FREE LP-GAS FOR A YEAR

IF YOU ENTER HERE AND WIN THE LP-GAS SWEEPSTAKES

AS ADVERTISED IN  **CHICAGO TRIBUNE**

Get your ENTRY BLANK HERE

Harold L. Costello, president of Imperial Gas Co., Los Angeles, Calif., said he used the kit material at three of the Imperial Gas retail plants. "In addition to the national program, we had a drawing for \$50. We had a total of 472 entries, and developed a great deal of interest by the general public in the contest. In all three instances, the \$50 award drawing was won by one of our good customers. We secured some new accounts as a direct result of this contest and we anticipate that we will obtain several more in the future."

E. P. Mink, vice president, sales, Wisconsin Southern Gas Co. and Wisconsin Propane reported that his advertising agency seized upon the Sweepstakes as a good advertising, promotion and publicity program and developed a special Sweepstakes campaign. "We alerted everyone in our organization, and of course, all of our dealers, to the possibilities of getting their customers and potential customers enthused about the Sweepstakes."

In its local-level Sweepstakes, Wisconsin Southern gave away prizes valued at \$1000 consisting of ranges, cookware, and picnic stoves. "We were able to get special publicity stories, including Council pictures of the prize home, in all of the newspapers with whom we cooperated. We feel that the publicity value of the program alone was excellent."

Donald G. O'Meara, sales manager of Pyrofax Gas Corp., New York City, said that the Sweepstakes promotion program was announced to distributors in the company publication, *Pyrofacts*. In the announcement the company offered to pay half the cost of any radio and newspaper advertising used in conjunction with the Sweepstakes and half the cost of any local Sweepstakes prizes.

How did the program work for Pyrofax? It went over well, if the following quote from the *Rebel Yell*, publication of the Southern Pyrofax division, is indicative: "Ken McClelland at Metter, Ga., reports that the National LP-Gas Council Sweepstakes program has created more floor traffic than anything else he has ever used!"

Mrs. G. B. Sheppard, president of Carolina Suburban Gas Co., Laurens, S. C., told the Council office that her firm advertised the Sweepstakes by radio twice a day, by newspaper, and by word of mouth, "thanks to our customers, employees, and friends."

CUT COSTS by installing these Viking LP Gas Pumps

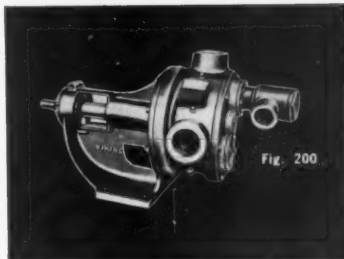


Fig. 200

BULK PLANT—You cut costs because Viking supplies the right pump for your job—no need to accept improper size equipment. Our complete and improved line of Vikings with helical gear reducers will handle all of your bulk plant pumping jobs efficiently.

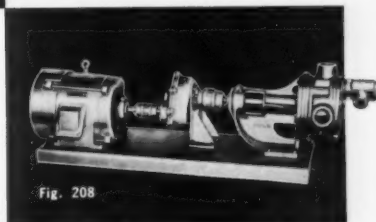


Fig. 208

FUELING, BOTTLE FILLING—Viking Pumps made especially for LP-Gas fueling and bottle filling are direct connected for cost-cutting fast delivery. 5, 10, 20, and 30 G.P.M. sizes for all needs. 1750 and 3450 R.P.M. models.

For complete information, write for new catalog H8



VIKING PUMP COMPANY



Cedar Falls, Iowa, U.S.A.
In Canada, It's "ROTO-KING" Pumps
See Our File in Butane-Propane Catalog

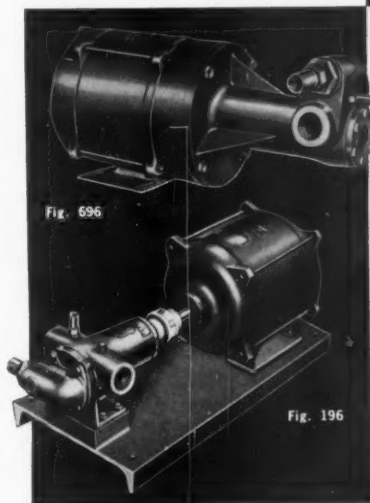


Fig. 696

Fig. 196

The HIDY DEGREE-DAY RECORDER WILL SAVE YOU UP TO 30% ON TRUCKING AND BOOKKEEPING COSTS

Would you pay \$95 a year rental or a modest purchase price to save up to 30% on your bookkeeping and trucking costs? That's what hundreds of users of the HIDY degree-day system are saving every year. With this system you can deliver more gallons per mile—make fewer trucks do the same job. Can be bought or leased. In use in all parts of the country. The most accurate, easiest to install, simplest to maintain degree-day recorder on the market—and that statement is backed by \$1000 reward for anyone who can prove otherwise! Write for full story of this money-saving, work-saving plan—ask for Bulletin 2PB.

Please state whether you already operate on Degree Day system.

HIDY-BROWN RECORDER COMPANY

5005 FIVE MILE RD. CINCINNATI 30, OHIO



(Note: Some territories still available for sales representatives. Write for information.)

ELIMINATE "LP" Cylinder Deterioration

caused by

Foot Ring Rust
with

SPATZ
FORMULA L-122
CYLINDER
SAVER



Now...a
100%

PLASTICIZED PHENOLIC Black Coating

- Safe-Sure protection against the elements of Fungus — Earth Organisms—Bacteria & Humidity that cause rust.

- "Cylinder-Saver" may be applied directly over rust . . . no surface preparation necessary. Simple to apply with Linen Bristle Mop.

- Cuts "LP" Dealers Cylinder Maintenance - Replacements COSTS PRACTICALLY IN HALF. START SAVING YOUR CYLINDERS TODAY.

For complete details and the name of the SPATZ salesman who serves you, write

SPATZ

PAINT INDUSTRIES, INC.
5237 Manchester Ave.
St. Louis (10), Mo.

Mrs. Sheppard said that she acted on the Council's advice and advertised a year's supply of gas free to the lucky winner if he resided in Carolina Suburban territory. "We also had a local Sweepstakes in connection with the National \$25,000 Win A Home Contest, and for almost the first time in the 25 year history of Rulane Gas Service here in South Carolina someone won whom we were delighted to have do so!

"A customer of ours in the country using a 14 year old gas stove and water heater on our gas was the winner. They were delighted with the latest features of their new gas range, especially the 'burner with a brain' and top extra broiler grill. Because their prize also included a new automatic water heater, they gave their 14 year old gas model to a daughter who has a two year old electric which is leaking and bothering her!"

Ed Burke, manager of Kay Gases Co., Chicago, reported that his company carried the Sweepstakes message to customers and prospects throughout the Chicago south suburban area by pasting Sweepstakes stickers and banners on the side of tank trucks. "We received many valuable inquiries as a result," he declared.

Many of the producer-supplier companies in the Council membership made participation in the Sweepstakes easy and attractive for their distributors. In addition, salesmen for these producer companies sold 202 non-member L. P. Gas dealers on joining the Council so that they would benefit from the Sweepstakes and other dealer aids produced by the organization. This brought total membership to 1220.

In a memorandum to all division managers, W. J. Wahlgren, sales promotion manager of Phillips Petroleum Co., said: "Here's a really big push for the National LP-Gas Council Sweepstakes. Any customer or prospect of a Philgas dealer or distributor who wins the \$25,000 Sweepstakes dream home will receive one year's supply of Philgas free!"

Socony-Mobil Oil Co., Poughkeepsie, N. Y., developed a similar program. In a bulletin to distributors, A. G. Strom, acting manager of the company's L. P. gas sales district, said: "If the winner is in your area, we believe he should receive an added prize of free Mobil-flame L. P. gas for a year. We will furnish gas at no charge and will

make available an automatic installation on a no charge basis."

It would take a book to recount all of the experiences of the numerous producers, appliance and equipment manufacturers, and, of course, marketers who promoted the Sweepstakes to good advantage. However, the few reports given here are helpful in gauging the success of the program.

Perhaps an even more accurate gauge is the number of Sweepstakes entries received as a result of the contest. More than 250,000 consumers entered the contest, a figure that exceeded the fondest expectations of Council leaders. Evidence is indeed strong that the Sweepstakes promotion was well received by the industry and the public.

Next year the entire program will be more effective if the majority of the dealers put considerable effort behind it at the local level.

The Sweepstakes has demonstrated that dealers, if properly motivated, will carry the "promotion ball." Obviously, the best way to motivate dealers is to provide the type of materials which can be used to spark sales at the grass roots level. The Council is dedicated to providing such motivation.

Suburban to distribute all of new refinery's LPG output

Suburban Gas Service, Pomona, Calif., has announced that it will distribute all of Southern Union Gas Co.'s refinery's L. P. gas output.

The refinery, located in Lybrook, N. M., and scheduled for completion this month, is expected to produce 20 million gal. of L. P. gas annually. In this area, also, the four corners of Arizona, Utah, Colorado and New Mexico, Suburban is currently conducting engineering and feasibility studies for salt-dome storage of its L. P. gas.

Suburban has been continuing its aggressive acquisition program by purchasing market plants at Dove Creek, Colo.; Monticello, Utah, and Las Vegas, N. M. All these acquisitions were made for cash and/or notes. This makes a total of 11 marketing plants added to the company since May 1, 1959, and brings the total number of marketing plants to 111 serving approximately 70,000 customers in eight western states.

Both sales and earnings of Suburban for the first half of its fiscal

year increased substantially over the same period a year ago, President W. R. Sidenfaden announced in an interim report to shareholders.

Sales increased 39 per cent while earnings registered a 128 per cent gain over the first six months of the fiscal year past.

Sales for the six months ended Oct. 13, 1959 amounted to a record \$5,425,099 and net profit was \$368,895, equal after preferred dividends to 58 cents per share on a total of 596,241 common shares outstanding.

"With our increased efficiency and an expectation of a normal weather pattern, we anticipate a continuing gain in sales and earnings throughout the balance of our fiscal year," Sidenfaden said.

New trucks increase payload, cut transportation costs

Skelgas is cutting transportation and delivery costs plus increasing truck payload since switching to bulk delivery trucks carrying 2600 gal. tanks.

The 2600 gal. tanks are made of light weight high tensile strength A-202 steel. Light and strong, they permit lighter weight plates to be used in the tanks' construction.

The company is continuing to use the same truck chassis as before with the exception that present trucks contain engines specifically designed to operate on Skelgas as a motor fuel.

Skelgas is presently using two different truck chassis' interchangeably with the new tanks. Hauling these new light weight tanks is a R-185 International truck with a factory-equipped 372 in. LPG engine and a White truck with a Reo 331 in. factory-equipped LPG engine.

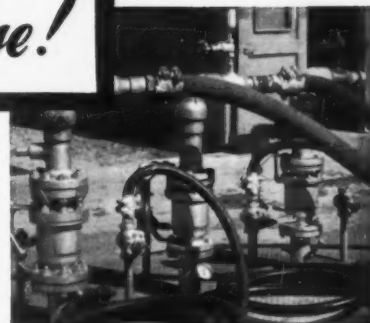
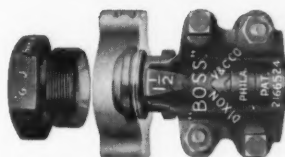
The new tanks for these two chassis' are built to company specifications by a Kansas City manufacturer who also mounts the tanks on truck chassis' supplied by Skelgas.

The truck chassis and new tank with an 85 per cent fill weighs the same as previous company operated trucks carrying the 2000 gal. tank made with heavier steel and an 85 per cent fill.

In addition, the new light-weight tank allows company trucks to increase the 85 per cent payload capacity from 1700 to 2200 propane gal. and deliver up to 1000 gal. of Skelgas a day extra by eliminating haulback and time left at the end of the day.

Delivery time is being cut, too.

Strongest, Safest Connections...for All L-P Hoses!



"GJ-BOSS" STYLE X-34 GROUND JOINT FEMALE COUPLINGS

Unequalled in strength, durability and safety! That's why more and more "GJ-Boss" Couplings are being used on hose handling L-P Gas . . . at bulk plants . . . on carloading rigs . . . and other installations. All parts are steel or malleable iron, thoroughly rust-proofed. Furnished with super-strong "Boss" Offset and Interlocking Clamps. Ground-joint union between stem and spud forms leakproof, trouble-free seal. Sizes 1/4" to 6", inclusive. Also available in washer type, and with companion "Boss" Male Couplings. Stocked by Manufacturers and Distributors of Industrial Rubber Products.

DIXON *Valve & Coupling Co.*

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO
BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING CO., LTD. TORONTO
ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC. QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

GENERAL L-P GAS TANKS

20 lb.—40 lb.—60 lb.—100 lb. Cylinders

Complete Line of Accessories for Single or Double Hook-ups . . . Regulators—Valves—Racks—etc. Everything that is needed for complete Bottle Gas Installation.

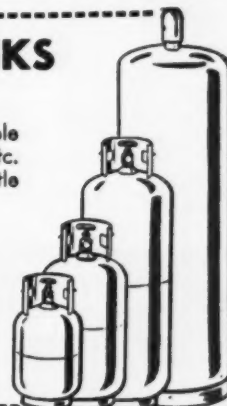
★ Send for full details today.

General Processing Corporation

Main Office and Factory: Quincy, Michigan

West Coast Division:

10854 E. Central Ave., El Monte, California



a. Sentry
b. Watchman
c. Cabildo
d. Imperial
e. Flair
f. Riviera
g. Heritage

Gaslites
BY ARKLA

A superb line of traditional and contemporary gas lighting fixtures... reflecting the nostalgic charm of America's gaslight era and designed to lend graciousness to outdoor illumination.

Gaslites by Arkla... picturesque and practical... a mark of the owner's taste for beauty

For full specifications and prices, please write Arkla • Gaslite Division Shannon Building Little Rock, Arkansas

PARACOIL VAPORIZERS for LP-GAS & AMMONIA



Davis Paracoil Vaporizers are widely specified by consulting engineers throughout the industry. They are available in 12 standard sizes to meet almost every application requirement. For complete information, write for Bulletin 130-2.

DAVIS ENGINEERING DIVISION

TUBE REDUCING CORPORATION
420 Main Avenue, Wallington, New Jersey
Mailing Address: P.O. Box 959, Passaic, N.J.

USE HANDY

BRUSH TOP CANS

for applying pipe dope, touch-up paint, leak detectors and similar liquids

Sturdily constructed, leakproof, ELLISCO Brush Top Cans are specially designed to make it easier to apply pipe dope, touch-up paint, leak detectors and other liquids. Everyone likes these cans because:

- they save time and trouble, are convenient, easy-to-carry, always ready for use.
- high quality brush won't dry out when not in use because it remains immersed in the liquid.
- brushes are firmly attached to screw caps.

Eleven different ELLISCO Brush Top Cans are in stock ready for prompt shipment. Capacities are from 3 oz. to 1 qt. Write, wire or call for complete information.

GEORGE D. ELLIS & SONS, INC.
4040 N. American St., Phila. 40, Pa.
BAIdwin 3-3405

Time saving features include almost doubling pumping capacity with Viking Pumps that displace 70 gal. of Skelgas compared to the old rate of 38 gal. per minute. Han-nay electric hose reels coupled with 125 ft of Hewitt-Robins twin hose save time connecting to the customer's tank and replacing the hose in the truck.

The old 2000 gal. tank with the same truck chassis was costing the company approximately \$11,000. The new trucks, with identical chassis and new tanks is costing \$13,000... and the increased cost is largely in the tank itself.

Skelgas estimates the trucks will raise the "number of gallons delivered per mile traveled" by 15 per cent.

With the added features included in the new trucks, Skelgas expects to be able to offset the initial extra cost of \$2000 in just two years. And the lengthy depreciation rate of these tanks means these "extra profits" will go on indefinitely for the life of the tanks.

Processing, liquid recovery system under construction

Union Oil Co. of California and Goliad Corp., Houston, Texas, have concluded an agreement to construct a jointly owned gas processing and liquid recovery system in southern Louisiana. Components of the system, presently planned for construction at a cost of \$12 million, are a refrigerated oil absorption extraction plant, a raw liquids pipeline, and a fractionation plant.

The refrigerated oil absorption extraction plant is to be located some nine miles south of Kaplan, Vermilion Parish, La. It will be capable of processing approximately 450 MMcf of gas daily from the Transcontinental Gas Pipeline Co. and Trunkline Gas Co. systems, gathering from fields in and offshore of Vermilion Parish. This plant is capable of extracting some 295,000 gal. per day of liquids from the gas.

The raw liquids pipeline will run approximately 85 miles, from the extraction plant to a plant site on the east bank of the Mississippi river a few miles south of the petrochemical and refining center of Baton Rouge, La.

The fractionation plant will be located at the terminus of the raw liquids pipeline system. It will separate the raw liquids into petrochemical charge stock, propane, isobutane, normal butane, and natural gasoline.

American Bosch personnel learn about Ensign products

In connection with the recent acquisition of the Ensign Carburetor Co. of Fullerton, Calif., by American Bosch Arma Corp., all American Bosch sales personnel were recently given a training course to acquaint them with the sales aspects of Ensign equipment.

Three training sessions were held simultaneously during the week of Dec. 14, 1959, one at the Bosch plant in Springfield, Mass., one at the Bosch regional office in Cleveland, Ohio, and one at the Ensign factory in Fullerton, Calif.

The training sessions were coincidental to the transfer of all Ensign sales and promotion activities and sales personnel to the American Bosch sales organization. During the week of January 4 all Ensign sales personnel attended a training session in Springfield, Mass., to acquaint them with Bosch products.

Sinclair releases 1960 ad program to its distributors

Sinclair Oil & Gas Co. recently released its expanded Sinclair Truflame LP-Gas 50/50 Advertising Program to its distributors. The 1960 edition of the booklet contains information on approved media, including several new ones being offered by the company for the first time to Truflame distributors.

Sinclair gives "top billing" to the distributor in all Truflame 50/50 advertising. The truck painting program, for example, offers the distributor his choice of copy and layout as well as several approved colors and color schemes. Radio commercials, newspaper ad mats and roadside signs follow through with top billing for the distributor.

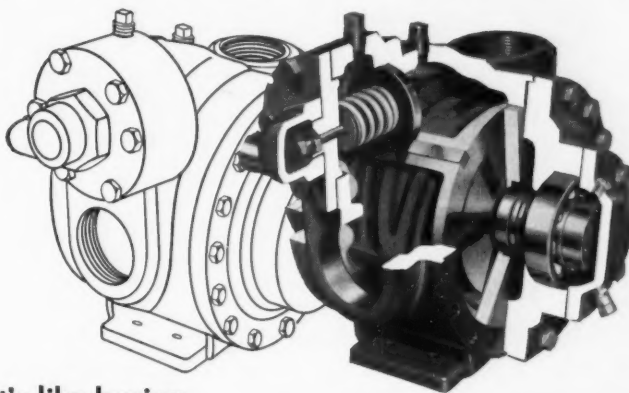
Personalized advertising consultation for special events is a service also available through the advertising program.

Hot Springs Gas sold to Arrow Division, National Propane

Hot Springs Gas Co., Truth or Consequences, N. M., has been sold to Arrow Gas Co., Roswell, N. M., it was announced by R. E. Glass, division manager, Arrow.

The name of Hot Springs Gas Co. has been changed to Truth or Consequences Gas Co., a wholly owned subsidiary of National Propane operating in the Arrow

All wearing parts are easily replaced



it's like buying

A SPARE PUMP FOR \$78.40!

You can count on Blackmer pumps for longest wear. But for still more "profit insurance", all wearing parts (bearings, seals, vanes and liner) are easily and inexpensively replaced. Take the popular TLGL2 truck pump. Here an investment of just \$78.40 in parts puts what amounts to a "spare pump" in your shop—lets you make repairs quickly to keep a whole fleet of trucks in action. For maximum 'round-the-clock delivery in your busiest season, specify Blackmer Pumps for your fleet and keep a "spare pump" in your shop.

FOR FULL DETAILS ON BLACKMER LG PUMPS
WRITE FOR BULLETIN 500

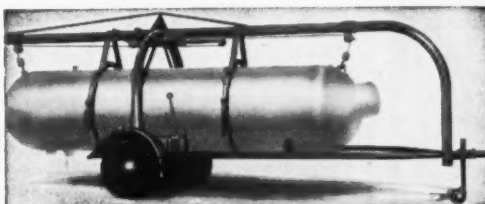


"liquid materials handling"® equipment

BLACKMER

LIQUEFIED GAS PUMPS

Blackmer Pump Company, Grand Rapids 9, Michigan
See Yellow Pages for your local sales representative.



PAT. PEND.

It's FOR YOU
FISK
TANK TRAILER
HYDRAULIC

YES—ONE MAN—CAN FRISK your tanks with a FISK trailer. Simple to operate and maintain. The hydraulic system does all the work. Save muscles—time and money. Fisk will transport tanks up to 1260 w.g.

PRICED WITHIN YOUR REACH—WRITE—CALL

Fine Products Company
6240 Ogden Avenue
Berwyn (Chicago), Ill.

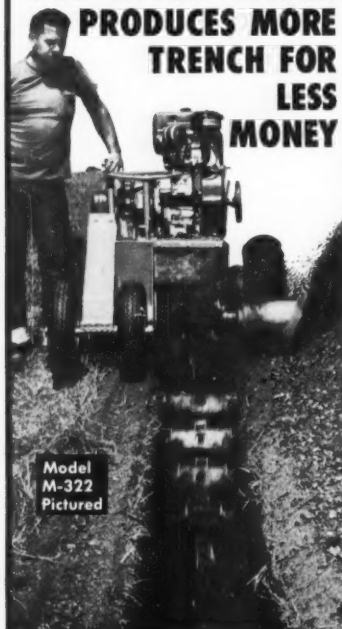
FISK TRAILER SALES CO.
P. O. Box #3093, Madison, Wisconsin

**"More or Less"
THE BEST**



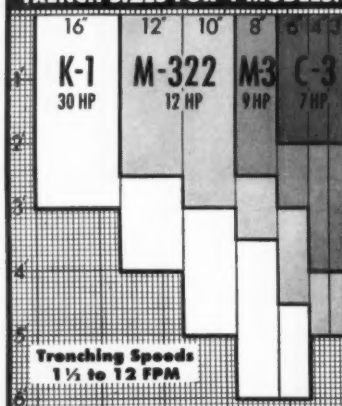
Other trenchers cost "More or Less"
Other trenchers dig "More or Less"

**BUT DITCH WITCH
PRODUCES MORE
TRENCH FOR
LESS
MONEY**



Model
M-322
Pictured

TRENCH SIZES FOR 4 MODELS:



**Trenching Speeds
1 1/2 to 12 FPM**

USE FOR:
• Utility Services • Sewer Laterals
• Gathering Lines • Road Crossings
• Signal Lines • Sprinklers
• Footings, etc.

CHARLES Machine Works, Inc.
616 B Street • Perry, Okla.

To Locate Distributor, Look Under "Contractors Equipment" in 1960 Metropolitan Telephone Directory Yellow Pages for Ditch Witch Trade-mark; or Call Collect FE 6-4404, Perry, Okla.

Division under the supervision of the management of Arrow.

The new company will service and distribute L. P. gas to the residents of Truth or Consequences through a piped utility and deliver gas in bulk to homes, farms and ranches in that vicinity.

**Canada-Milwaukee
pipeline considered**

Foothills Products Pipe Line Ltd., Calgary, Alta., Can., is conducting a survey to determine the feasibility of a products pipeline from the Calgary area to Milwaukee, Wisc.

The line would cost about \$190 million and would carry propane, butane and sulfur to U. S. markets.

Company officials have reported that considerable money is being spent to determine the engineering feasibility of the line and to explore market possibilities.

One of the major questions is whether to construct two separate lines or one. An attempt is being made to determine if sulfur could be carried in a slurry, with the L. P. gas carrying the sulfur. This would require only one line.

If this is not feasible, the gas would be carried in one pipeline, and the sulfur, in the form of hydrogen sulfide, in the other.

Foothills would own and operate the pipeline. Foothills was formed by Mannix Co. Ltd., Pembina Pipe Line Ltd. and a number of businessmen.

The group also has under consideration an \$80 million products line to the Pacific region.

NEWS BRIEFS

"Communication for Safety" is a "how to" series of training films just released by the National Safety Council to show supervisors how to communicate effectively with their men. Also available through the Council is its new fourth Edition of the Accident Prevention Manual. For further information and prices on each of these items write the National Safety Council, 425 No. Michigan Ave., Chicago 11, Ill.

Pyrofax Gas Corp. recently honored five 25-year service personnel with a luncheon held at the Chemists' Club in New York City. Walter A. Namer, president, presented each employee with a 25-year service certificate and an inscribed wrist watch.



DEALERS

MURRAY GLASS—general manager for the past 16 years of the associated companies distributing "ModernGas" in the New Jersey area, resigned his position effective Jan. 1, 1960.

JOHN MARSH JR.—from a serviceman for the gas utility in Miami, to district manager at Fernandina Beach, Fla., Suburban Propane Gas Corp., Whippany, N. J. STANLEY STRINGER—who previously owned and operated his own L. P. gas company, to district manager at Monticello, Ky., for Suburban. CARL J. CRAVEN—from business manager of the Leesburg Gas Service, to district manager at Leesburg, Ohio, Suburban.

SUPPLIERS

CLYDE H. WILKINSON—for the past year, serving as acting president of the air conditioning division, has been appointed president of that division, American-Standard, New York.



C. H. Wilkinson
American-Standard



C. A. Bogenrief
Robertshaw-Fulton

CHARLES A. BOGENRIEF—from director, facilities and tooling, to vice president, manufacturing, Robertshaw-Fulton Controls Co., Richmond, Va. ROBERT D. SPRIGGS—from an industrial relations and employment position, Caterpillar Tractor Co., to director of industrial relations, Robertshaw.

JOHN J. SHAND—appointed southern district manager for Pennsylvania Range Boiler Co., Philadelphia. His territory includes the states of Georgia, Alabama, and Tennessee.



W. L. Parcell
Ridge Tool



R. D. Fye
Ridge Tool

WILLIAM L. PARCELL—from vice president and director of sales to executive vice president, Ridge Tool Co., Elyria, Ohio. **R. D. FYE**—from salesman to sales manager; **H. L. PALMER**—from assistant sales and advertising manager to advertising manager and assistant sales manager; **HERMAN WEIBLE**—from plant superintendent to plant manager; **CLARENCE T. HEINTZ**—from assistant plant superintendent to production superintendent; **JOHN MEESE**—from service coordinator to manager of product development; and **ANTON JANIK**—from foreman, tool room, to tool room superintendent.

W. E. OTIS—from contract administrator to contract and marketing administrator, Grayson Controls Division, Robertshaw-Fulton Controls Co., Long Beach, Calif.

VICTOR EMERY—from manager of manufacturers' sales for the Industrial Division to general sales manager of that division, Aeroquip Corp., Jackson, Mich.

ROBERT A. GIORGI—from district sales manager, covering several New England states, to manager of market development for two-way radio equipment, General Electric's Communication Products Department, Lynchburg, Va.

VICTOR G. PAPPAS—from sales engineer in the Middle Tennessee territory to sales representative covering Alabama, Mississippi, Louisiana, and West Tennessee, Temco Inc., Nashville, Tenn.

WILLIAM L. ORTON—from associations with both wholesale and retail firms in northeastern Ohio, in sales and engineering capacities, to field sales representative in north central Ohio, Janitrol Heating & Air Conditioning, a division of Midland-Ross Corp., Columbus, Ohio.

GERALD POPE—from general manager of sales to vice president, sales, J. B. Beard Co., Inc., Shreveport, La.

WANTED



FOR HI-JACKING A TANK IN EVERY 20

That's right! There's a thief disguised as gas vapors left in tank cars. This thief can steal up to a full tank loss in every 20 cars, right out of your pocket.

Stop this thievery! Brunner LP Gas Transfer Units not only transfer all liquid to your storage tank but remove and liquify thieving gas vapors in the tank. It's also the efficient and economical way to load tank trailers and even discharge into storage tank of ultimate user.



Unless you're willing to take a one in twenty loss, write for free booklet that tells you how to transfer savings.

**GET BRUNNER
LP GAS TRANSFER UNIT
PROTECTION FOR THAT
STOLEN TANK**

BRUNNER DIVISION
DUNHAM-BUSH, INC.
WEST HARTFORD 10, CONNECTICUT

DUNHAM-BUSH

MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA • RIVERSIDE, CAL.
heul-x BREWSTER, NEW YORK • TORONTO, CANADA • PORTSMOUTH, ENGLAND

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Developments Each Month**

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for leakproof, pressure-tight connections



Improved WEED CONTROL BURNERS!

◀ **The Farm Boy**
A #3 Blue Jet Burner equipped with 10 gal. tank, sturdy cart, cylinder clamp and 15 ft. of hose.

A complete line of hand vapor and liquid weed burners.

● BLUE JET (Vapor)

Most economical burners yet! Throw flame 6 to 12 feet. Burn up to 30 gals. an hour. "Blow-out-proof" pilot.

#7—Over 7' long; light weight; lever-operated valve; two hooded orifice nozzles.

#5—5' long; same as #7 except single hooded orifice nozzle.

#3—3' long—otherwise same as #5.

● RED JET (Liquid)

#30 and 30A—lightest and most durable liquid burner made. Runs on liquid, liquid & vapor, or straight vapor. Unconditional 2-year guarantee.

Distributors wanted in some areas.

Northwest Fabricators, Inc.
NYSSA, OREGON

RUSSELL C. TAYLOR—from executive department vice president and director, American Can Co., to president, ACF Industries Inc., New York. JAMES F. CLARK—from president, to chairman of the executive committee. GEORGE R. CORCORAN—from acting manager of American Car & Foundry Division, to manager of advertising.

O. V. TRACY—from vice president to president, Esso Standard Oil Co., New York. ROBERT H. SCHOLL—from vice president, to executive vice president. WILLIAM NADEN—from president, Esso, to executive vice president and director, Humble Oil & Refining Co. E. DUER REEVES—from executive vice president, Esso, to vice president and director, Humble.

JACK D. SPARKS—from director of marketing, RCA Whirlpool sales department, to vice president, RCA Whirlpool appliance sales. Sparks succeeds JOHN A. HURLEY—who recently announced that because of illness he was forced to reduce his work load and therefore relinquished his position.



Jack D. Sparks
Whirlpool Corp.



Frank Kohles
William Wallace

FRANK KOHLES—from general sales manager to vice president in charge of sales, William Wallace Co., Belmont, Calif.

OSCAR BERG—from sales engineer for Morrison Steel Inc. to sales representative, covering the territory of western Pennsylvania, Burnham Corp., Warm Air & Cooling Division, Belle Vernon, Pa.

DEAN B. RANDALL—from advertising manager to director of advertising for Minneapolis based divisions of Minneapolis-Honeywell Regulator Co. RICHARD CROUSER—from administrative assistant to the vice president in charge of the residential division to advertising and sales promotion manager for that division. ROBERT RUFF—from advertising manager of McCulloch Corp.'s marine products division to advertising-sales promotion manager, Honeywell's Commercial & International Division.

J. G. YEAGER—with Cities Service Oil Co., Chicago, for the past three years, will represent its L. P. gas division in Missouri. D. M. GAUGER—from traffic and retail sales, United Petroleum Co., to Cities L. P. gas representative in southern Wisconsin. G. L. ANDERSEN—from resident manager, Missouri Midland Gas Co., at Kirksville and Brookfield, and vice president of Bettergas Co., Prophetstown, Ill., to Cities L. P. gas representative in northern Wisconsin.

RAY HILL—from general manager of furniture and appliances, Smith's Home Furnishings, Doniphan, Mo., to district sales representative for Oklahoma and Kansas, Magic Chef, Cleveland, Tenn.

H. E. ROSSELL JR.—from sales manager of the air conditioning division to general sales manager, American-Standard, New York. R. J. BERKSHIRE—from manager of distributor development to general marketing manager, Air Conditioning Division. W. H. BAKER JR.—from vice president marketing, American-Standard Air Conditioning Division, to American-Standard Plumbing and Heating Division.

WENTWORTH SMITH—from head of the company's liquid meter division to marketing vice president, Neptune Meter Co., New York. JOHN J. CARROLL—from head of liquid meter sales to general manager of the liquid meter division. LARRY S. KERN—to sales representative for the liquid meter division in northern California and western Nevada.

DEATHS

WILLIAM M. WARD, 77, formerly operator of the Public Bottle Gas Co., Englewood, Colo., died at his home in nearby Littleton on November 11, 1959.

WARREN G. JENNINGS, retired vice president of Minneapolis-Honeywell Regulator Co., died on Dec. 11, 1959 after a long illness. He was 73. He joined Honeywell in 1912 and was a branch manager in Milwaukee, Chicago and Boston. He was made a vice president in 1927 and retired from the company six years ago. He is survived by his widow, Mrs. Dorothy Jennings.



BUTANE-PROPANE News



Jack Sanders has good reason to look proud. His business, built around the motor fuel market, is now doing an average volume of 2-million gal. per year.



Motor fuel dispensers have been the real "cash registers" in Sanders' company. This one is located at his headquarters in southwestern Oklahoma City.

Jack Sanders takes only the BIG loads

IF you're looking for LPG motor fuel in or around Oklahoma City, chances are you'll wind up at one of Jack Sanders' dispensers.

Sanders has made himself a leading figure in motor-fuel sales in the Oklahoma capital through some unusual policies. Customers seem to like these—and other—features of the Jack Sanders operation:

He'll convert your equipment and carry the paper.

He charges no interest.

You pay him off in increments

added to your fuel bill.

For certain usages, he guarantees his price by contract.

Sanders is happy with the set-up, too, because he has built up a steady clientele. He's also guaranteed himself (in one line of his business, farm service) minimum-annual usage, a minimum storage, and a ceiling on the number of deliveries per annum.

Motor fuel is Sanders' specialty. Although in the past year he has been branching out into farm deliveries, he is building *that* busi-

ness around power uses as well. A 27-year veteran in the LPG industry, he's been in business for himself as a motor-fuel company for the past seven years.

The core of his service is motor-fuel dispensers. He has 21 of them, situated within a 15-mile radius of his main depot in southwest Oklahoma City. All are located at gasoline-service stations. Sanders owns the systems, and leases the space at 1 cent a gal.

From these stations, as well as his own two main plants, he is



Truck-refrigeration units are a good source of income at Sanders' stations. A large share of his gallonage is sold to transient vehicles, such as this one.



Sanders has 21 motor-fuel locations in the Oklahoma City area. Each is operated in conjunction with a gasoline-service station. Storage capacities range from 1000 to 26,000 gal., depending upon demand and relative congestion in the area. Twelve are of the 1000-gal. size, two are 2000's, five are 3000's, and one is a 24,000-gal.

for long wear
low vibration
fast pick-up

JOHNSON VANASIL PISTONS



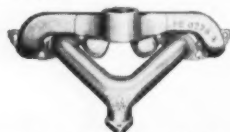
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Vanasil or
Aluminum
Pistons—jump
power output
as much as
25%

MINNEAPOLIS-
MOLINE
"U" Vanasil
Pistons—light-
weight, yet tough
as cast iron



LP conversions of John Deere and MM-"U" tractors result in more power and performance with Johnson Vanasil Pistons. Newly patented Vanasil amazingly combines the hardness of cast iron with the lightness of aluminum. Precision Johnson machining and engine "know-how" keeps pistons snug without sticking. Tractor vibration is kept low... stalling eliminated... pick-up increased.

For John Deere A, G, "50", "60" and "70"... also Minneapolis-Moline "U". Johnson Aluminum Pistons are available for John Deere A, B, D, G and H models



JOHNSON COLD MANIFOLDS FOR LP GAS keep constant flow at correct temperatures... are available for:

John Deere A, B, D, G
International H, M, W-9
Allis-Chalmers W, WC, WD, WF
Ford 600, 700, 800, 900 Series

—also International and Chevrolet trucks.

WRITE for literature and prices.

JOHNSON MACHINE SHOP

DEPT. B-33

PONTIAC, ILL.

STAFF REPORT

presently pumping an average of 6000 gal. per day. For the year, he confidently expects to top the 2 million-gal.-per-year mark.

Sanders does not depend on "casual" customers for sales. While he has a large number of transient customers—especially refrigerated trucks—he has built a steady clientele by doing his own conversions and concentrating on some large local fleets.

One reason for Sanders' success in converting fleets is that he makes the job so easy to pay for. He figures the comparative costs of gasoline and LPG for each unit. Then, after the conversion has been completed, he sells the LPG motor fuel at the going gasoline price, applying the savings against the conversion bill. When the job has been amortized, he reduces his price to the regular LPG level.

Sanders is careful to estimate probable usage so he will know about how long an amortization pe-

riod will be needed. For example, on a recent conversion of a fleet of cattle trucks, he expected the job to be paid off in about three months.

With this system, Sanders himself does the amortization instead of the customer. That way it's painless for the customer, it ties him to Sanders for the amortization period, it assures regular payment of the bill within a reasonable length of time—and every time a "payment" is made, Sanders is making a regular profit on the LPG sold.

The last-named benefit is one major reason why Sanders charges no interest. His investment is working for him, if only indirectly.

Most deals won't amortize as fast as the cattle-truck conversion did. Ordinarily, Sanders shoots for a maximum of a year's payout. If a vehicle has even moderately-heavy usage, it should easily repay him within that time.

While this payment plan may appear to tie up unreasonable amounts of capital over long periods, it's no more of a burden than

WESTERN TANK & STEEL CORP.

PO BOX 1338 P.O. 5-9474
LUBBOCK, TEXAS

The Nation's No. 1 Manufacturer of
LPG

AUTOMOBILE, TRUCK AND TRACTOR TANKS

*The name assures you of top
quality materials and workmanship*

many domestic-farm systems which take much longer to payout.

Speaking of farm systems, Sanders recently took a plunge into this market. He set up a separate company called United Suburban Gas Co. Inc., and hired Forrest Gaffin, a crack salesman and a former fleet-owner customer, to run it. This company is going after the large-usage market, exclusively.

United Suburban carefully screens its farm prospects. They must "qualify" as to volume of usage. The minimum is 5000 gal. per year. They are also provided a metered tank of at least 1000-gal. capacity—sized, says Sanders, to assure that deliveries will be needed no oftener than once each month.

Few farms could qualify for United Suburban service without having good diversification. Domestic uses alone would not be enough. So every bit of farm equipment that can be converted is put on LPG—tractors, pumping units, pickup trucks, and even passenger cars, if they will be used primarily for local travel.

In United Suburban's first year, it picked up 100 of these large-volume customers. During 1959, Sanders predicted he would add an extra 300.

Why should a farmer find such a deal attractive when he could buy elsewhere without the minimum restrictions on usage?

"Farmers have been accustomed to having oil companies furnish a dispenser free of charge," explains Sanders. "But if they went to LPG, they had to buy their own tanks. Naturally, they used the smallest tanks they could get away with, and they did not convert all their equipment.

"We also give them a fixed-price contract which can only be increased if there is an increase in the refineries base price. We don't pass spot increases along to them, and our prices are constant the year around. We are usually a cent and a half over the competition in the summer but a cent and a half lower in the winter."

Approximately 65 per cent of the gallonage sold to farms is used for internal-combustion engines, so Sanders is still concentrating on his specialty. ■

A. H. SEEBOLD REPORTS...

**"INCREASE DELIVERY RATE 20%
WITH CENTURY LP-GAS CARBURETION"**

BLAW-KNOX M55
SIX YARD MIXER



**A. H. SEEBOLD, PRESIDENT—A. H. SEEBOLD
TRUCK SERVICE & EXCAVATING COMPANY
GRANITE CITY, ILLINOIS REPORTS...**

"since May of 1959, we have purchased four Blaw-Knox M55 six-yard mixers with Century LP-Gas Carburetion installations as factory equipment.

Every phase of our operation has improved. The tremendous difference in maintenance requirements is summed up by the fact that each month our four LP-gas mixers have consistently delivered 20% more cubic yards of concrete than comparable gasoline operated vehicles. This is due to the fact that our LP-gas vehicles are not tied up in the maintenance garage. Plugs last longer, less frequent oil changes, no major breakdowns and our drivers report extremely smooth operation especially on the mixer engines.

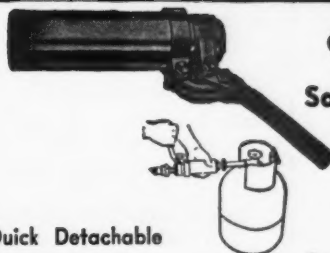
We have a complete conversion and original equipment purchase plan that will eventually make us a complete Century LP-Gas operation."

**SEND FOR THE CENTURY "FACT PAC" GIVES
MORE DETAILS... OTHER CASE HISTORIES.
Insist on complete Century LP-Gas carburetion systems
for top performance.**



Export Sales: Sin For Automotive Div.
Singer Products Co.
13 Moore St., New York 14, N. Y.

CENTURY GAS EQUIPMENT
Marvel-Schebler Products Div.
Borg-Warner Corporation
Decatur, Illinois



Parkhill

Safety Hose Nozzles

Repairs are easy
Immediate shipment
Nozzle Parts
Adaptors, to pipe-
Acme-POL

Quick Detachable
Overall Length
Domestic 7" Truck 11"

For information ask

PARKHILL-WADE
475 Huntington Drive, San Marino, Calif.

CLASSIFIED Advertising



SITUATIONS WANTED

CREDIT MANAGER HAS DEVELOPED systematic plan of credit management and wants part time position with dealers in western states. Dealers reply to W. E. Locke, 3401 Balboa, San Francisco, Calif.

L.P.G. PLANT, DISTRIBUTION and Utilization experience. Good reference. Free to travel, supervision and/or sale work desired. 46 years old. Reply Box 5, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

MARCH GRADUATE—GAS FUEL DEPARTMENT. Southern Technical Institute, unit of Georgia Tech, five years' previous experience, desires position in technical sales work. Draft exempt. Married. Prefer Western location. Write Gary L. Jordison, 203B Tech-Lawson, Chamblee, Georgia.

WHOLESALE/RETAIL MANAGER DESIRES to relocate. 15 years experience in the L.P. business covering every phase. Managing large operation at present. Resume of background available. Reply Box 8, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

HELP WANTED

EXPERIENCED RETAIL OPERATIONS MANAGER wanted for Midwestern location with growing independent. Apply only if you are experienced and interested in hard work in growing business with reasonable compensation plus profit sharing plan. Furnish complete details including recent photo. Reply Box 14, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

BUSINESS OPPORTUNITIES OFFERED

LPG BULK PLANTS. WE SPECIALIZE in selling petroleum properties throughout Midwest. Have number desirable plants for sale. OLE BRODD, PETROLEUM MARKETERS, 605 Produce Bank Bldg., Minneapolis, Minnesota.

FOR SALE: SMALL INDEPENDENT LP Gas Business. Serving approximately 700 Customers. Bulk Plant. 1300 nearly new 100# Cyls. Located in Michigan, about 40 miles from Detroit. Reply Box 15, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

BUSINESS OPPORTUNITIES WANTED

WANTED TO PURCHASE: RETAIL LP-GAS business in Midwestern or Southeastern states. Reply Box 13, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WE ARE INTERESTED IN NEGOTIATING FOR COMPANIES MEETING THE FOLLOWING CONDITIONS:

1. Profits of \$250,000 or more before taxes.
2. Operations in growing areas needing capital for expansion.
3. Owners desiring to retire with a guaranteed income.
4. Partners wanting financing for the purchase of associates interests.
- Any other situation requiring management and financing.

Principals only please. Replies strictly confidential.
BOX 11, BUTANE-PROPANE News
198 So. Alvarado St., Los Angeles 57, Calif.

FOR SALE — TRUCKS - TRAILERS

USED PROPANE DELIVERY TRUCKS, 1200 GALLONS W. C. Presently in use and being replaced with larger units. United Petroleum Gas Co., 4820 Excelsior Blvd., Minneapolis 16, Minnesota.

7100 to 8200 GALLON TRAILERS—T-1 and 202 Steel—\$7795.00 reconditioned—New Recaps—will deliver 700 miles—Phone JE 6-1730. **FAT & CHUCK SUPPLY CO.** "The Tradingest Monkeys in Texas," Ft. Worth, Texas.

FOR SALE—TRUCKS - TRAILERS - Cont

FOR SALE A QUANTITY OF 7200 - GALLON NECKDOWN TRANSPORTS.

Excellent Condition, Good Rubber,
AIRIDE TANDEMS.

TRINITY STEEL, INC.
4001 IRVING BLVD. DALLAS, TEXAS
Fleetwood 7-3961

HAUL MORE PROPANE AND LESS STEEL! LOAD AND UNLOAD FASTER! Save the annual Federal tax on trucks that weigh more than 13,000 lbs! Users praise the Nor-Tex 2500 WG Single Barrel Payload Special of 202B X-rayed material and stress relieved. Weighs only 12,890 lbs. completely equipped with High Flow Plumbing, Meter, Hose, Hose Reel, Fire Extingisher and mounted on cab-forward truck with 108" cab to axle dimension. Increased capacity pump boosts deliveries to 50 GPM. Vapor manifold permits easy simultaneous loading and unloading of twin tanks with either compressor or liquid pump. These popular, carefully engineered and sleek designed Nor-Tex Single and Twin units are produced in four attractive models: The "Standard"—the "Custom"—the payload "Special" and the "Deluxe." That's not all! Twin units, up to 2000 WG, are mounted on 85" cab to axle. Start hauling more gas and less steel. Do it profitably and in much less time. Phone, wire or write for prices now. **NORTH TEXAS TANK CO., Denton, Texas.** Phone DU'pont 2-5416.

1956 DODGE W/1560 TWIN PROPANE tanks. Good condition, ready to go. Complete with meter, pump, hose and etc. Southwest Gas P. O. Box 390, Liberal, Kansas.

TRANSPORTS: SINGLE OR TWIN barrel; new or used; for lease, or sale on budget or rental sale plan. If you want maximum payload, with all of the latest equipment engineered to fit your truck, roads, and your hauling problem, get the **LMC PAYLOADER**

Contact Lubbock Machine & Supply Co., Inc., Drawer 1589, Lubbock, Texas

TRINITY BULK TRUCK UNITS

In stock, ready for immediate delivery. Buy early and avoid steel price increases.

Write, wire or phone RAY REEDY

TRINITY STEEL CO.
Dallas, Texas
Phone: FL-7-3961

BULK TRUCK UNITS

NEW UNIT, ready to roll, at \$6500 can be financed (we carry our own paper) for **\$650.00 DOWN** and **36 payments of \$187.54, INCLUDING INTEREST.**

Immediate delivery all sizes with any make truck.

Used Units also. We Trade.

Preston Grace

WHITE RIVER DISTRIBUTORS

Ph RI-3-2374-Batesville, Ark.

FOR SALE—TANKS - CYLINDERS

30,000 GALLON BETHLEHEM STEEL Tank, manway, ladder, platform; immediate availability. Located in central Ohio. Southwestern Farm Chemical, Waynesville, Ohio.

FOR SALE—TANKS—CYLS.—Cont.

SURPLUS SALE—ANHYDROUS AMMONIA Applicator Tanks—New and used 65-, 100-, and 150-gallon tanks, stocked in North Carolina, Maryland and New Jersey. Also one 31,250 lb. Toledo platform scale. For details, write or phone M. Steinhilber, Suburban Propane Gas Corporation, Whippany, N. J.

USED DELIVERY TANKS

- 1—1040 Twin on 350 GMC—1954 model
Very Good Condition
- 1—1200 Twin-Tanks only
Fair Condition
- 1—1250 Twin-Tanks only
Good Condition
- 1—1450 Twin on 1951 Chev. Butane Powered
Fair Condition

LUBBOCK MACHINE & SUPPLY
PO 25261—Box 1589—Lubbock, Texas

STORAGE TANKS

Immediate Delivery
350# WP Propane Storage Tanks, 8,250 WG through 12,450 WG; 72" diameter; 10,170 WG through 16,800 WG; 84" diameter; 15,200 WG through 20,500 WG, 96" diameter. Ready for immediate delivery, our stock level. ORDER EARLY and AVOID STEEL INCREASE.

Write, wire or phone RAY REEDY
TRINITY STEEL CO.
DALLAS, TEXAS
Phone: FL-7-3961

MOTHBALL PLANT

All or Part! Never used yet kept new with nitrogen! Will relocate an complete atmosphere-creating industrial or bottle gas plant with excellent N. E. Illinois present location available!!! Composed of two 30 M propane tanks; vaporizer, etc. compressor; pumps; T.C. & T.T. risers; 900 Fence; etc., etc.

BOX 12, BUTANE-PROPANE News
198 So. Alvarado St., Los Angeles 57, Calif.

PROPANE GAS SYSTEMS

"Listed by Underwriters' Laboratories, Inc." If you use as many as one load of tanks per year, it will pay you to contact us. Distribution throughout the Mid-West and Southern states.

LOWRY TIMS COMPANY

Quality Steel Products Division, Cleveland, Miss.

SKID TANKS

— IN STOCK NOW —

3000 gallon size built especially rugged for oil field use. Write, wire or phone
Lubbock Machine & Supply Co., Inc.
P. O. Drawer 1589
Lubbock, Texas

FOR SALE—MISCELLANEOUS

DECALS MADE FOR TRUCKS, EQUIPMENT. Small or large quantities. Catalog free. Mathews Co., 827 S. Harvey, Oak Park, Ill.

SERVEL GAS REFRIGERATORS

At Special Off-Season Prices

W600A—6 cu. ft.

BN600A—6 cu. ft.

S600A—with Cross-top Freezer

Used: Guaranteed in good operating order. Excellent condition. Low delivery cost anywhere. Send for illustrated folder NOW.

BEACH REFRIGERATOR CO.

196-11 Northern Blvd. Flushing 58, N. Y.
Phone FLushing 7-6161

CLASSIFIED ADVERTISING

FOR SALE—MISC.—Cont.

MAILING LIST OF L P GAS DEALERS. Approximately 2500 names on Elliott address large stencil. Southwest GAS, Box 390, Liberal, Kansas.

FOR SALE: BAKER ALCOHOL PUMPS. A must if you are in the gas business. Sure cure for moisture problems. Hydraulically designed for injecting alcohol into propane-butane tanks against pressure. Send \$59.95 for pump complete with fitting. Baker Engineering, Malone, New York.

DIXIE SEMI-LOCK HOODS, ALUMINUM and Aluminum coated steel. Wall bracket or free standing. **GUARANTEED** mechanically for life. \$3.00 up. Dixie Manufacturing Company, Elizabethtown, Kentucky, Box 65. Phone Collect RO-5-9229.

FOR SALE—IMMEDIATE DELIVERY! Eureka Smokehouse Burner Assemblies! For meat smoke houses using bottled gas. Completely automatic. Clean filtered smoke. Distributes heat uniformly. Low gas consumption. Automatic temperature and pilot control. Less product shrinkage. Easily installed. Write for descriptive pamphlet. Eureka Equipment Company, P.O. Box 396, Beloit, Wisconsin.

SPECIAL SALE: Two—single axle propane tank trailers. One—Black-Sivalls, twin tank, 4120 gallon capacity. One—Quaker City, 4000 gallon capacity. Both with 5 h.p. electrical pump motors. Terms Available. Berman Sales Company, Pennsburg, Penna. ORleans 9-7911.

SURPLUS EQUIPMENT DISPOSAL—Propane Materials Warehouse, Erie, Pennsylvania. A wide assortment of useful items including: T & P relief valves, burner jets, torches, tips, electrical equipment, Kemp Carburetor, valves, electric hoist, Viking pumps, straight and taper shank drills, stove bolt, machine and pipe taps, tools, plated machine and stove bolts. All reasonable offers considered—Send for list of items of interest. The Propane Corp., 302 E. 131st, Cleveland 8, Ohio. Service Engr. Dept., Phone: GLenville 1-5220.

SERVEL REFRIGERATORS

4 & 6 cu. ft.—U-type Evaporator
6-7-8 cu. ft. Cross-top Freezer
Clean—Guaranteed—Low Cost Shipping

FRED A. BROWN COMPANY

170 W. Cumberland St., Phila. 33, Pa.
Est'd 1918 Call Collect RE 9-1130

WANTED—MISCELLANEOUS

WANTED: USED 18,000 GAL PROPANE storage tank with fittings, to be used in the State of Ohio. Reply Box 9, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANTED

USED 500 and 1000 Gallon Propane Tanks

WRITE or CALL
GRASSO BROS.

3900 Reavis Barracks Rd., St. Louis 25, Missouri.

FOR RENT or LEASE

6,000 to 30,000 PROPANE STORAGE for sale, rent or lease. Financing and installation available. Reply Box 38, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

PROFESSIONAL SERVICES

PROPANE GAS PLANTS

ANHYDROUS AMMONIA PLANTS

Designed and Installed

PEACOCK CORPORATION

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CALENDAR

All associations
are invited to send
in the dates of their
forthcoming meetings

1960

February 1-3—Northeast L.P. Gas Carburetion School—New Governor Hotel, Harrisburg, Pa.

February 1-4 — American Society of Heating Refrigerating & Air Conditioning Engineers Semi-annual Meeting—Memorial Auditorium, Dallas, Texas.

February 3-5—L. P. Gas Motor Fuel Service and Installation Clinic—State Farm Show, Harrisburg, Pa.

February 11—New Jersey LPG Convention—Colony Motel, Atlantic City, N. J.

February 14—West Virginia LPG Meeting—Charleston, W. Va.

February 25-26 — Eastern Canada District LPG Convention and Trade Show—Lord Simcoe Hotel, Toronto, Ont.

March 6-8—Indiana LPG Convention and Trade Show—Claypool Hotel, Indianapolis, Ind.

March 20-22—Ohio, Kentucky, Indiana Tri-state Convention and Trade Show—Sheraton Gibson Hotel, Cincinnati, Ohio.

March 21-22—Montana Service Schools Great Falls, Mont. and March 24-25—Miles City, Mont.

March 28-30—Southeast District LPG Convention and Trade Show—Atlanta Biltmore Hotel, Atlanta, Ga.

March 28-29—Iowa LPG Convention—Kirkwood Hotel, Des Moines, Iowa.

March 29-30—New York LPG Convention—Concord Hotel, Kiamesha Lake, N. Y.

April 2-3—Western Canada LPG Annual Meeting—Calgary.

April 10-11—Kansas LPG Convention—Allis Hotel, Wichita.

April 11-12—North and South Dakota Joint Convention—Eagles Club, Bismarck, N. D.

April 24-25—Association of Nebraska LPG Dealers Annual Convention—Castle Hotel, Omaha, Neb.

April 24-26—Mississippi LP-Gas Dealers Association—Edgewater Gulf Hotel, Edgewater Park, Miss.

May 1-4—National LPG Convention and Trade Show—Conrad Hilton Hotel, Chicago.

May 16-18—Central States L.P. Gas Carburetion School — Kansas State University, Manhattan, Kans.

May 16-20—NFPA Annual Meeting—Hotel Queen Elizabeth, Montreal, Que.

May 22-25—Industrial Heating Equipment Association Inc. Annual Convention—The Homestead, Hot Springs, Va.

May 29-31 — Mid-South District LPG Convention and Trade Show—Peabody Hotel, Memphis, Tenn. [Arkansas and Tennessee will hold their annual state meetings during this convention.]

June 2-3—Institute of Appliance Manufacturers Convention — Netherland Hilton Hotel, Cincinnati, Ohio.

June 9-11—Western Liquid Gas Association Convention and Trade Show—Statler Hotel, Los Angeles, Calif.

June 13-15—American Society of Heating, Refrigerating & Air Conditioning Engineers Annual Meeting — Vancouver, B. C., Canada.

June 27-28 — Montana-Wyoming Convention—Jackson Hole, Wyo.

July 17-19—Colorado Convention — Boulder, Colo.

August 7-9—New Mexico Convention and Trade Show—Albuquerque, N. M.

August 14-16—Kentucky LPG Convention—Kentucky Hotel, Louisville, Ky.

August 21-23 — Idaho, Nevada, Utah Tri-state Convention and Trade Show—Shore Lodge, McCall, Idaho.

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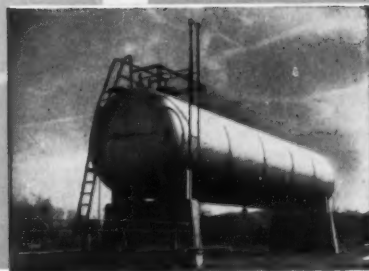
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